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**THE CORRELATION BETWEEN STUDENT'S WORKING  
MEMORY AND THEIR READING COMPREHENSION IN  
RECOUNT TEXT OF THE TENTH GRADE AT  
ISLAMIC SENIOR HIGH SCHOOL TEKNOLOGI RIAU  
PEKANBARU**



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PEKANBARU  
1442 H/ 2021 M**



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RECOUNT TEXT OF THE TENTH GRADE AT  
ISLAMIC SENIOR HIGH SCHOOL TEKNOLOGI RIAU  
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A Thesis

Submitted to Fulfill One of the Requirements  
for Undergraduate Degree in English Education  
(S.Pd)



By

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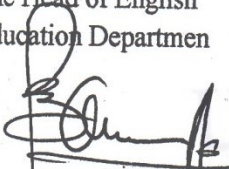
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The thesis entitled *The Correlatioon between Students' Working Memory and their Reading Comprehension of the First Grade at Islamic Senior High School Teknologi Riau* written by Masyitoh, SIN 11314205271. It has been accepted and approved to be examined in the meeting of the final examination committee of Undergraduate Degree at faculty of Education and Teacher Training of State islamic University of Sultan Syarif Kasim Riau.

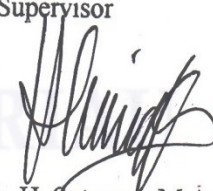
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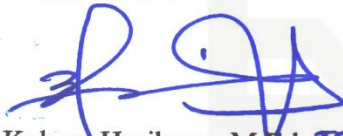
## EXAMINERS APPROVAL

The thesis entitled *The correlation between student's working memory and their reading comprehension in recount text of the tenth grade at islamic senior high school teknologi riau pekanbaru* is written by Masyitoh, SIN. 11314205271. It has been approved and examined by the examination Committee of Undergraduate Degree on at Faculty of Education and Teacher Training of State Islamic University of Sultan Syarif Kasim Riau on 23<sup>th</sup> Dzulhijah 1441 H/ August 13<sup>th</sup>, 2020 M as one of requirements for Undergraduated Degree (S.Pd.) in Department of English Education.

Pekanbaru, Dzulhijah 23<sup>th</sup> 1441 H  
August 13<sup>th</sup> 2020 M

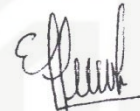
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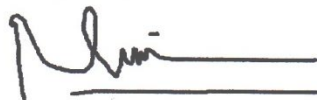
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## ACKNOWLEDGMENT



In the name of Allah, the Lord of the World. The Beneficent and the Most Merciful, Praises belong to Allah Almighty. By His guidance and blessing, the researcher has accomplished the final research paper as an academic requirement to finish her bachelor degree. Then, may shalawat and salam always be presented to the last messenger of Allah, Prophet Muhammad SAW who has inspired and lightened many people up all around the world. And to the researcher's beloved parents H. Alizar and Hj. Farida. Thank you so much for their endless love, advice, support and prayer for her in every single time. No words can be described how much she loves and needs them. She can not live without them

The researcher realizes that the final project paper is far from being perfect and without defect. Constructive criticism and suggestion are needed in order to improve the paper. The researcher would like to show her gratitude to all beloved people that have encouraged, motivated even helped the researcher in finishing the paper. They are:

1. Prof. Dr. H. Akhmad Mujahidin, S.Ag., M.Ag., the Rector of State Islamic University of Sultan Syarif Kasim Riau
2. Dr. H. Muhammad Syaifuddin, S.Ag., M.Ag., the Dean of Education and Teacher Training Faculty of State Islamic University of Sultan Syarif Kasim Riau.
3. Dr. Drs. Alimuddin, M.Ag., the Vice Dean I of Education and Teacher Training Faculty of State Islamic University of Sultan Syarif Kasim Riau
4. Dr. Dra. Rohani, M. Pd., the Vice Dean II of Education and Teacher Training Faculty of State Islamic University of Sultan Syarif Kasim Riau
5. Dr. Drs. Nursalim, M.Pd., the Vice Dean III of Education and Teacher Training Faculty of State Islamic University of Sultan Syarif Kasim Riau.
6. Drs. H. Samsi S, M.Pd., the Chairperson of English Education Department.
7. Cut Raudhatul Miski, M.Pd., the Secretary of English Education Department.
8. Drs. H. Sutarmo, M.Ag., the researcher's thesis supervisor that has been so nice and caring. Thank you very much for correction, suggestion and guidance to accomplish the thesis.



9. Dr. Hj. Zuhidah, M.Pd., the researcher's academic supervisor who has motivated the researcher a lot.

10. All lecturers of Education and Teacher Training who gave the researcher knowledge and information during class and the process of making the paper.

11. The researcher's brothers and sisters Salmi Hayati S.El., Hazli Narti Amd,Keb., Darisman Amd.Farm., Mifta Hurrahmah, Mardo Tilla. Thank you so much for love and support. She loves them so much.

12. The researcher's niece and nephew Humairah daniaa hazman and Naufal ellano ramdhoni, she really thankful to them because they make researcher fell happy enough beside making the research.

13. The headmaster of PTR Pekanbaru, who gave an opportunity to do her research there. The English teacher of PTR Pekanbaru, Mrs.Siti Badriah M.Pd who help the researcher accomplish her research. Thank you for being so nice to her.

14. The researcher's beloved friends Rosalina sari, S.Pd., Nurikhwani S.Pd., Rahmi Fitri Yanti.Z S.T., Darma Uli S.Pd., Siska Amelia S.Psi., Afrelia Nasution, S.Pd., Annisa Utamy S.Pd., Nur Sarah, S.Pd., Reni Rahayu, S.Pd., Fitri Andra Moni S.Pd., and Hasnah Fitri S.Pd., who have given support and shared knowledge, joy, pain and many things with her. Thank you for our togetherness.

15. The researcher's best partner Rito Bagio S.T who always support and beside her raising to finish the research as soon as possible.

16. The researcher's beloved F 2013 class friends. They are amazing friends. Thanks for love, laugh, happiness, sadness, and care for 3 years along.

17. People who have given her the great support in conducting and finishing this thesis who can not be written one by one.

The perfection only belongs to Allah. Criticism, comment, and suggestion are really appreciated to improve the thesis. May Allah Almighty, the Lord of universe bless us all.

Pekanbaru, 15<sup>th</sup> march, 2019

The Researcher  
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UIN SUSKA RIAU

## ABSTRACT

### **Masyitoh, (2020): The Correlation Between Students' Working Memory and Their Reading Comprehension at Islamic Senior High School Teknologi Riau**

This research was aimed to know whether there is significant correlation between students' working memory and their reading comprehension at Islamic Senior High School Teknologi Riau. The researcher formulated the problem into three research questions which was answered by using quantitative method. This research had two variables, students' working memory as an independent variable and students' reading comprehension as a dependent variable. The design of this research is correlational research. There are 48 students of eleven grade as population that are divided into 2 classes, the researcher took 24 students as samples that are taken randomly from each class. In collecting the data, the researcher used two kinds of test. Each test consists of 25 multiple choice questions as instrument. In analyzing the data, the researcher used descriptive statistics and *Pearson Product Moment Correlation* formula. The data was analyzed by using SPSS version 23.0 program. Based on the research finding, it was found that students' working memory was categorized into middle level and students' reading comprehension was categorized into less level. The result of *Pearson Correlation* showed that the probability level is 0.000. It can be stated that  $0.000 < 0.05$ . which means  $H_0$  was rejected and  $H_a$  was accepted. Then,  $r$  value of *Pearson Correlation* was 0.888. Thus, it can be concluded that there is significant correlation between students' working memory and their reading comprehension at Islamic Senior High School Teknologi Riau.

*Key words: Correlation, Working memory, Reading comprehension.*

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## ABSTRAK

### Masyitoh (2020): Korelasi antara Memori Kerja Siswa dan Pemahaman Membaca Mereka di MA Teknologi Riau

Penelitian ini bertujuan untuk mengetahui apakah ada hubungan yang signifikan antara memori kerja siswa dengan pemahaman bacaan mereka di MA Teknologi Riau. Peneliti merumuskan masalah menjadi tiga pertanyaan penelitian yang dijawab dengan menggunakan metode kuantitatif. Penelitian ini memiliki dua variabel, minat siswa dalam belajar bahasa Inggris sebagai variabel independen dan pemahaman membaca siswa sebagai variabel dependen. Rancangan penelitian ini adalah penelitian korelasional. Ada 48 siswa kelas sebelas sebagai populasi yang dibagi menjadi 2 kelas, peneliti mengambil 24 siswa sebagai sampel yang diambil secara acak dari masing-masing kelas. Dalam mengumpulkan data, peneliti menggunakan dua jenis tes. Setiap tes terdiri dari 25 pertanyaan pilihan ganda sebagai instrumen. Dalam menganalisis data, peneliti menggunakan statistik deskriptif dan rumus *Pearson Product Moment Correlation*. Data dianalisis dengan menggunakan program SPSS versi 23.0. Berdasarkan hasil penelitian, ditemukan bahwa memori kerja siswa dikategorikan ke tingkat menengah dan pemahaman membaca siswa dikategorikan ke dalam tingkat yang kurang. Hasil *Pearson Correlation* menunjukkan bahwa tingkat probabilitas adalah 0,000. Dapat dinyatakan bahwa  $0,000 < 0,05$ , yang berarti  $H_0$  ditolak dan  $H_a$  diterima. Kemudian, nilai  $r$  *Pearson Correlation* adalah 0,888. Dengan demikian, dapat disimpulkan bahwa ada hubungan yang signifikan antara memori kerja siswa dan pemahaman bacaan mereka di MA Teknologi Riau.

*Kata kunci: Korelasi, Memori kerja, Pemahaman membaca.*



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### ملخص

مشيطة، (٢٠٢٠): ارتباط بين الذاكرة العاملة لدى الطلاب وفهمهم في القراءة في مدرسة التكنولوجيا الثانوية رباو.

هذا البحث يهدف إلى معرفة وجود الارتباط الهام بين الذاكرة العاملة لدى الطلاب وفهمهم في القراءة في مدرسة التكنولوجيا الثانوية رباو. عينت الباحثة ثلاثة أسئلة التي ستتم إجابتها باستخدام الطريقة الكمية. ولهذا البحث متغيران، فرغبة الطلاب في تعلم اللغة الإنجليزية متغير مستقل وفهمهم في القراءة متغير غير مستقل. وتصميم هذا البحث هو بحث ارتباطي. وهناك ٤٨ طالبا من الفصل الحادي عشر كالتجمع لهذا البحث وهم موزعون إلى الی الفصلين. فعينت الباحثة ٢٤ منهم لعينة البحث وتم التعيين بالاختيار العشوائي من كلا الفصلين. وفي جمع البيانات استخدمت الباحثة اختبارين، فلكل منهما يحتوي على ٢٥ سؤالا اختياريا كأدوات. وفي تحليل البيانات استخدمت الباحثة إحصائية وصفية وصيغة ارتباط ضرب العزوم ليرسون. وتم تحليل البيانات باستخدام البرنامج الإحصائي للعلوم الاجتماعية رواية ٢٣٠٠. وبناء على نتيجة البحث وجد أن الذاكرة العاملة لدى الطلاب صُنفت إلى مستوى المتوسط وفهم قراءة الطلاب صنفت إلى مستوى الضعيف. والنتيجة من الارتباط ليرسون تدل على أن نتيجة الاحتمال  $0.0000$ . ويمكن أن تُذكر بأن  $0.0000 > 0.0005$  وذلك بمعنى أن  $H_0$  مردود  $H_a$  مقبول. ونتيجة  $r$  ارتباط ليرسون  $0.888$ . هناك ارتباط هام بين الذاكرة العاملة لدى الطلاب وفهمهم في القراءة في مدرسة التكنولوجيا الثانوية رباو.



الكلمات الأساسية: الارتباط، الذاكرة العاملة، فهم القراءة.



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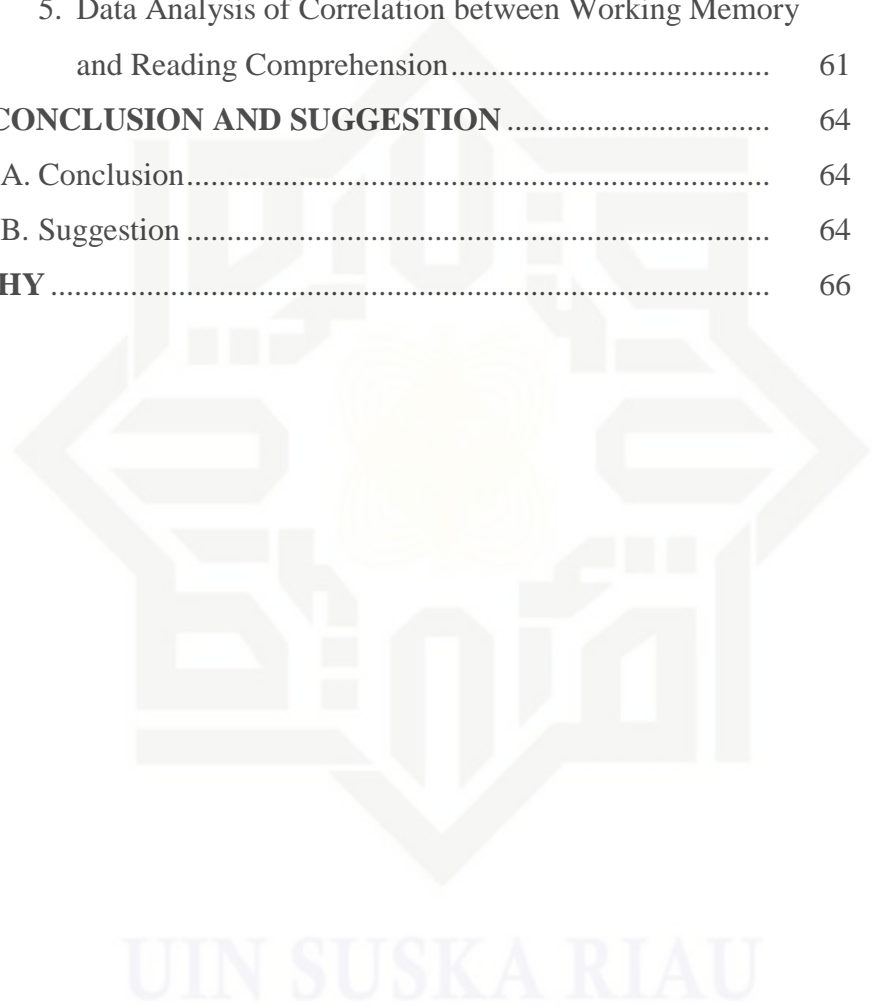
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## CHAPTER I INTRODUCTION

### A. Background

Reading is one of the skills in studying English. In learning English as a second or foreign language, four skills that should be owned by the learners. The skills are Speaking, Reading, Listening, and Writing. One of the language skills that are very important is reading. Reading is an essential skill and probably the most important skill for second language learners to master in academic contexts.

Reading is one of the language skills that should be mastered by students. Fiprinita (2013, p. 1) said that reading is one of the subjects to get information and knowledge about everything readers need from the written form. As stated by Anderson (2003, p. 68), reading is the fluent process of readers combining information from a text and their own background knowledge to build meaning. It is one of the activities which is done by language learners and it is cannot be produced without mastering grammar and vocabulary, especially, for English reader, students, and researcher.

According to Maxine (2000, p. 1) Working memory is an intermediary and active memory system in the information processing area of the brain. It is an important memory system and one that most of people use every day. Most people take working memory ability for granted. People use this important memory function throughout the day when speaking, listening, and particularly when reading. For the

many children and adults who have working memory difficulties, the reading may be something that they avoid. These are often the children in school who can read, but who don't like to read. They have difficulty retelling a story in their own words. Even some very bright children may experience school failure or be struggling to keep up, due to limitations in working memory. For them, reading is a necessary activity but certainly not one that they readily engage in. This is why they choose short stories for book reports and prefer to watch the video of classic books rather than read them.

The relationship between working memory and reading comprehension is well assessed independently of the age group considered, and also supported by neuroimaging studies showing that reading comprehension entails a network of frontal, temporal, and cingulated areas that support working memory processes said Borella (2006, p. 83)

In reading a text, the goal of the reader is “comprehension.” Without comprehension, the reading process will be useless or can be nothing. Bojovic (2010, p. 36) said that comprehension can be told as the main objective of the reading process. Comprehension is the key that a reader can understand the text or he/she can't understand it. In order to comprehend the text, the reader should be able to manage every part of the text, because it is easy to gain comprehension. Reading comprehension is an attempt to understand, evaluate, also to recognize the author's ideas of reading text. The reader needs comprehension to catch the content of the message or information from the text/passage. In addition, Snow (2002,p.11) claimed that reading comprehension is defined as the process of simultaneously



extracting and constructing meaning through interaction and involvement with written language. Therefore, comprehension can be told as the core of reading activity. In the current study, the writer focused on the unique contributions of working memory to reading comprehension. The Writer chose reading comprehension because it is the “goal” of reading. The aspect of reading that is assessed in high-stakes reading tests and the most complex reading skill is based on the intrinsic cognitive load theory.

In Indonesia, students are usually afraid of joining foreign language classes. They may feel unmotivated, discouraged easily. They say foreign language is difficult to be learned because most of them know nothing from the beginning. Usually, students know nothing about how to express what they want to say. (Penny, 2003).

Islamic Senior High School Teknologi Riau is one of the Islamic schools located in Pekanbaru, as an Islamic educational institution, this school provides English for their students especially in reading skills. This school uses curriculum 2013. Based on curriculum 2013 there are four genres that students should learn, they are recount, a procedural, narrative, and descriptive text. The minimum reaching passing grade for reading in this school is 75. In recount text, students are able to identify the structure of recount including orientation, events, and reorientation. And the language components comprising simple past tense, past continuous tense, past perfect tense, and past perfect continuous tense.

The writer did an interview with the English teacher in this school in October 2017. According to the teacher, she taught reading on recount text and also used English textbook as sources material to be learned by students. She gave materials using recommended English learning book. In a formal situation, English subject is learned twice a week with a duration of a time 45 minutes for one meeting. Based on the curriculum, the goal of reading is the students are expected to be able to understand the reading text in the teaching-learning process. On the other hand, to reach the goal of the curriculum demanded, the students are to have the ability in English interaction in both formal and informal situations. Reading skill is one of the English language skills which is taught and it should be mastered by the students in this school. In the syllabus, reading in English subject cannot be separated from the text as sources. Comprehending the text is one of the focuses of reading.

Furthermore, based on the previous study of the researcher above some of the problems of the students in learning English especially in reading recount text that is in enriching the working memory, difficult to comprehend a reading text, some students good in reading but their working memory have a difficult to more understand and some of the students are lazy to read so their reading comprehension is not improved. So, after the writer explains the relation between working memory and reading comprehension above, the Researcher sure that the real situation is actually different from the theories that the writer explain above about have good working memory knowledge means that have good reading comprehension.

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Based on the researcher's observation of the tenth-grade students at Islamic Senior High School Teknologi Riau, the writer found some phenomena as follows:

1. Some of the students have a low interest in reading text.
2. Some of the students have difficulty in retelling in their own words after reading.
3. Some of the students have problems with their reading comprehension.
4. Some of the students have problems when they in the learning process.
5. Some of the students wrong in answering the reading questions.

Based on the statements above, the researcher is interested in investigating the problems stated above into research which is entitled. **“The Correlation Between Student's Working Memory and Their Reading Comprehension in Recount Text of The Tenth Grade at Islamic Senior High School Teknologi Riau.**

### **B. The Reason of Choosing the Title**

The reason why the writer is interested in carrying out research on the topic above is based on several considerations:

1. The title of this research is very important to be investigated because the problems are related to teaching and learning reading as an EFL class.
2. The topic is relevant to the status of the writer as one of the students of the English Education Department.
3. As far as the writer is concerned, this research has never been investigated yet.

## C. The Problems

### 1. Identification of the problems

Based on the phenomena that are explained by the writer above, so the problems in this research will be identified as following questions:

- a. What makes some of the students low interest in reading a text?
- b. What makes some of the students difficult in retelling in their own words after reading a text?
- c. What makes some of the students have problems with their reading comprehension?
- d. What problems that students have with their working memory during the learning process?
- e. What were the factors that make some of the students wrong in answering the reading questions?

### 2. Limitation of the problems

From the identification of the problem, the Researcher focuses on research on working memory and reading comprehension in recount text of Tenth-grade students at Islamic Senior High School Teknologi Riau.

### 3. Formulation of the Problems

The problems will be formulated into the following research question as follow:



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- a. How is the working memory of the first year students of Islamic Senior High School Teknologi Riau?
- b. How is students' reading comprehension in reading recount text of the first-year at Islamic Senior High School Teknologi Riau?
- c. Is there any significant correlation between students' working memory and their reading comprehension at the tenth-grade of Islamic Senior High School Teknologi Riau?

**D. Objective and Significance of The Research**

**a. Objective of The Research**

The Researcher carries out this research for several objectives as stated below:

- a. To find out how the student's working memory of the tenth-grade at Islamic Senior High School Teknologi Riau.
- b. To find out how the student's reading comprehension of recount text of the tenth grade at Islamic Senior High School Teknologi Riau.
- c. To find out the significant correlation between student's working memory and their reading comprehension of recount text at the tenth grade of Islamic Senior High School Teknologi Riau.

**b. Significance of the Research**

Hopefully, this research is expected to be :

- a. Very meaningful, especially for the researcher as a novice researcher in terms of learning to conduct research.

- b. Valuable inputs for both students and teacher of English of tenth-grade students at Islamic Senior High School Teknologi Riau as a consideration for the following teaching points.
- c. Contributory to increasing working memory in reading class.

## **E. Definition of the term**

### **1) Working memory**

According to Maxine (2000, p. 1) In the information processing region of the brain, working memory is an intermediate and active memory device, an essential memory system and one that most people use every day. In this research, working memory is one of affective factors that influences reading comprehension of the tenth grade students at Islamic Senior High School Teknologi Riau.

### **2) Reading Comprehension**

One of the most complex workings of the human mind is reading comprehension., Borella (2006, p. 30). Comprehension is a construction process as it involves all of the elements of the reading process, which work together in order to create a representation in the reader's mind. In this research, reading is vital for education for children the ability to reading.

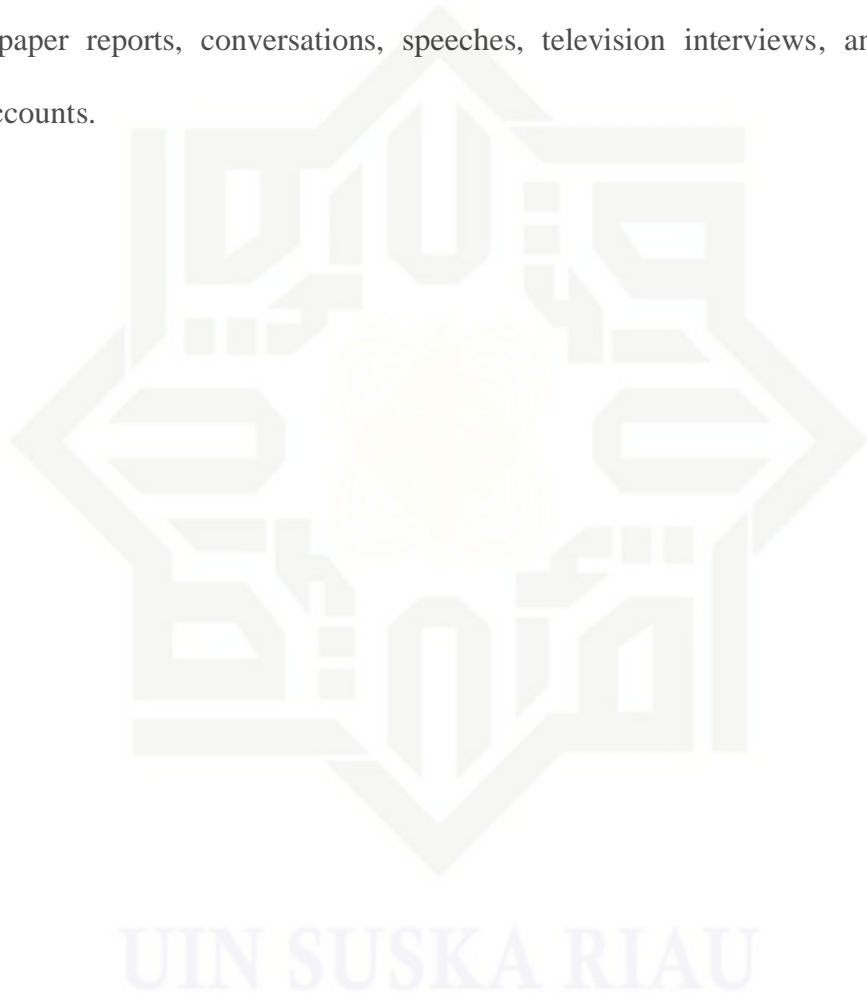
### **3) Recount Text**

According to Anderson (2003,p.49) a recount is a piece of text that retells past events, usually in the order in which they happened. It has a purpose in which it gives the audience a description of what occurred and when it occurred. Knapp

and Watkins (2005,p. 223) also say that a recount is a sequential text that does little more than sequencing a series of events. It is the simplest type of narrative genre. A recount is different from a narrative text in terms of the problems in the sequence of events. Another view comes from Recount can be in the form of letters, newspaper reports, conversations, speeches, television interviews, and eyewitness accounts.

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## CHAPTER II

### REVIEW OF RELATED LITERATURE

#### 1. Reading

##### a. The Nature of Reading Comprehension

Reading is often underestimated by the students. They tend to treat it as a supplementary skill, in fact, it is an important skill that should be mastered by the students to improve their skill in reading. With the mastery of reading, the students are expected to fulfill their need for information. It is clear that reading comprehension is not only a process of knowing the meaning of words semantically but also a process of catching the idea of the text whether it is stated or not.

Kruidenier (2002, p. 77) elaborated that comprehension is an active process and the reader must interact and be engaged with the text for it to work well. It is also a strategic process that can be taught. As comprehension takes place, words are decoded and associated with their meaning in the reader's memory and phrases and sentences are processed rapidly or fluently enough so that the meanings derived from one word, phrase, or sentence are not lost before the next is processed. Yet, Reading comprehension can be described as understanding a text that is read, or the process of constructing meaning from a text.



Furthermore, Armbruster (2000, p. 41) also defined that comprehension is the reason for reading. If readers can read the words but do not understand what they are reading, they are not really reading.

As a detailed definition, Westwood (2008, p. 32) stated that reading comprehension is often conceptualized as functioning at different levels of sophistication and referred to, for example, as literal, inferential, and critical. The most basic level (literal) is where the reader is able to understand the factual information presented in a passage of text – for example, he or she can tell you the name of the main character and what he does for a living because that information is stated explicitly in the text. The next level is referred to as the inferential level.

At this level the reader is able to go beyond the words on the page and infer other details, for example, to realize that the main character is angry from what he says and what he does. Being able to operate at the inferential level means that the reader is using information effectively to deduce cause and effect, and to anticipate what may come next. At a more demanding level (critical reading), the reader is able to appraise what he or she is reading, for example, detecting good writing style from the author, recognizing when some statements in the text are biased or incorrect, appreciating the writer's viewpoint, comparing and contrasting information with other facts they have read elsewhere, and reflecting upon the importance or otherwise of the opinions presented. Weak readers who are still struggling with word recognition have enormous difficulty progressing beyond a literal level of comprehension because most of their cognitive effort is taken up in unlocking the print.

## b. Reading Comprehension of Recount Text.

Reading is a process of perceiving and understanding written language, which needs technique for the students to be able to comprehend the text quickly and accurately. It enables students to gain new knowledge, enjoy literature, and do everyday things that are part and parcel of modern life. Readers need to be able to comprehend what they are reading that involves the process of acquiring grammatical structures and vocabulary meaning. In reading comprehension, there are five component aspects of reading. The first is the main idea, supporting detail, Pronoun referent, vocabularies, and the last inferent of the aspects.

Reading comprehension is an activity with a purpose. It is very useful for all people. It is as interactive process that goes on between the reader and the text. A person may read in order to analyze a writer's idea or writing style. A person may also read for enjoyment, or to enhance knowledge of the language being read.

According to Douglas (2000, p. 189) Reading is one of the receptive skills in English that should be mastered by students. There are many types of reading:

- a. Perceptive. Involves attending to the components of larger stretches of discourse: Letters, words, punctuation, and other graphemic symbols.
- b. Selective. Involves the to ascertain one's reading recognition of lexical, grammatical, or discourse features of language within a very short stretch of language.
- c. Interactive, Stretches of the language of several paragraphs to one page or more in which reader must, in a Psycholinguistic sense, interact with the text.

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d. Extensive. Extensive reading applies to text of more than page, up to including professional articles, essays, technical report, short story, and books

According to Anderson ( 1997, p. 16), a recount is speaking or writing about past events or a piece of text that retells past events, usually in the order which they happened. The aim of the text is retell the past event or to tell someone's experience in chronological order.

**c. Assessment of Reading Comprehension of Recount Text.**

A person may read for many purposes, and purposes help to understand more what is read by people. If he is reading for pleasure or reading for pure recreation and enjoyment, he may read either quickly or slowly based on the way he likes or feels. But if reads for studying or setting information such news, science or same line, which are part of his study or assignment he does it very slowly and carefully.

**d. Structure of Recount Texts**

It is a point when writers try to create a piece of a recount text. Anderson (1997, p. 53) states that a recount text has three main parts:

- Orientation.

It gives background information about who, what, where, and when.

- A series of paragraphs

It consists of paragraphs that retell the events in the order in which they happened.

- Conclusion (optional)

It is a paragraph that contains a personal comment.

In conclusion, a recount text tells the reader what happened in a past. It begins with an orientation that tells the reader who was involved, what happened, where this event took place and when it happened. Then, the sequences of events are described in some sort of order e.g. time. Last, it may be a reorientation at the end which summarizes the event.

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**e. Rubric of Scoring Reading Comprehension**

The rubric of Scoring Reading Comprehension according to Brown (2003:215)

Score	Criteria
90-100	Excellent: main ideas, vocabulary and details information from the text accurate, all connected to each other and to the task sufficient to support
70-89	Good: main ideas, vocabulary and details information from the text accurate, all connected to each other and to the task, but are insufficient or inappropriate support.
50-69	Average: the response does not address the task. The response is few or not accurate details from the text and these details are not relevant to the task.
30-49	Fair : Average: the response does not address the task. The response provides no accurate details from the text and these details are not relevant to the task.

**2. Working Memory**

**a. The Nature of Working Memory**

The concept of working memory refers to the memory system used for the temporary holding and manipulation of information during the performance of a range of cognitive tasks such as comprehension and reasoning. The major feature of this model is that working memory is conceived as a multi-component system the phonological loop and the visual, consisting of three main components spatial sketchpads.

Working memory (WM) is a system used for temporarily holding and manipulating information; it plays a role in various cognitive tasks such as reasoning, comprehension and learning (Baddeley, 2010). For example, when learning to read, WM helps individuals to hold on to the sounds letters make long enough to sound out new words.

Working memory is like a mental sticky note that keeps track of short-term information. There are two kinds of working memory that work together: auditory memory and visual-spatial memory. There are things to do at home and at school to help students strengthen working memory skills

Working memory is a notion for which the structural and functional definitions are very different depending on the theoretical approach, as its conceptual definition is quite complex. Some authors suggest that working memory should be considered as a unitary system regulated by attentional resources, while others stress the modality-specific nature of some of its processes. Developmental approaches, for example, focus more on the functional role of central, general-purpose working memory capacity, than on its architecture or on the capacity of peripheral components (Baddeley, 2010).

According to Lefrançois (2012, p.25) Baddeley's model of working memory attempts to clarify the process involved in paying attention, learning, and remembering.

## b. Students' Working Memory

Working memory is an executive function that allows students to hold information in mind while working with it. Working memory is critical in the process of storing information in long-term memory. It is also critical in retrieving previously learned information from memory. In fact, most of the “work” in the memory system occurs in “working” memory where information is managed, manipulated, and transformed.

Working memory capacity differs from individual to individual. Students with working memory difficulties can hold fewer pieces of discrete information in their minds at any given moment. Students hear what the teacher said, or see what is presented, but as more information overwhelms students' memory system loses previous information needed to successfully complete the task. Once information is lost it is not likely to be retrieved. It is easy to see how the student can become frustrated and consequently stop paying attention. Working memory difficulties are common among students with Attention-Deficit/Hyperactivity Disorder (AD/HD), learning disabilities, hearing loss, acquired brain injury, and mental health issues.

Working memory difficulties might look like the students as follows:

- a. Have difficulty remembering facts and procedures, such as new vocabulary words, verb conjugations or mathematical procedures.
- b. Exhibit slow retrieval of information.

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- c. Fail to follow instructions despite repeated instructions.
- d. Demonstrate poor attention to detail, such as beginning to write a sentence and then struggling to remember all of the words in the sentence, skipping words within sentences, and writing short sentences (to reduce demands on working memory).
- e. Make place-keeping errors such as losing track of steps completed or steps yet to be completed and either repeats steps needlessly or constantly have to start over.
- f. Have difficulty starting work.
- g. Demonstrate difficulty staying on task. Task abandonment is a common consequence.
- h. Lose track of belongings.

These difficulties have a negative impact on core academic skills of reading, writing and mathematics. They may in turn affect performance in all subject areas. According to Maxine (2000 ,p.3) said that students who have working memory problems look like :

- a) Trouble following lengthy directions
- b) problems understanding long spoken sentences
- c) difficulty staying on topic in conversations
- d) difficulty with multistep math problems
- e) problems with reading comprehension



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f) Memory problems.

If an individuals suspected of having memory problems, there are several tests that can be used to distinguish between weakness with working memory and other difficulties. It is important to determine if there are working memory limitations so that appropriate intervention can be implemented.

Reading comprehension is highly dependent on working memory ability. Children who have reading comprehension problems are of concern to parents and educators. Some children have comprehension problems because they struggle when sounding out words, syllable by syllable, from one page to the next. Others may not have developed an adequate sight word vocabulary. Students with weak vocabulary development are also at risk for having reading comprehension problems. Yet there are many students and adults who can sound out words accurately, have well developed vocabularies, and can read sentences fluently, but who do not remember or comprehend what they read. For them it is a limitation in working memory capacity that prohibits print from becoming meaningful.

On the other hand Maxine (2000, p. 2) also explained, Reading is a complex skill that requires the simultaneous activation of many different brain processes. When reading a word, the reader must recognize the visual configuration of letters, the letter order, and must engage in segmentation (breaking the word into individual sounds). Then, while being held in working memory, the phonemes (letter sounds) must be synthesized and blended, to form recognizable words. To comprehend

sentences, several more skills are necessary. The reader must not only decode the words, but also comprehend the syntax, retain the sequence of words, use contextual cues, and have adequate vocabulary knowledge. This must be done simultaneously in order for sentences to be understood.

At the same time, sentences must be held in working memory and integrated with one another. Each sentence is read, understood, associated and integrated with the previous one and so on. Eventually the entire paragraph is read and the reader continues on. By the end of the chapter both details and main idea need to be retained in working memory. Otherwise, the reader may have retained isolated facts but may not know the sequence of events nor understand the main idea.

According to Mark (2011, p. 6) said that Among the reasons why children with poor working memory often fall behind academically, by identifying these children early on and the providing them supports they need to succeed. We can prevent academic problem down the road by developed the following 7 step process designed to accomplish this:

1. Recognize working memory failures.
2. Monitor the child.
3. Evaluate the working demands on learning activities.
4. Reduce working memory load.
5. Be prepared to repeat.

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6. Encourage the use of memory aids.
7. Develop the child's use of strategies for supporting memory.

### 3. Relevant Research

1. A research by Amber Jean Sadler (2014) entitled "WORKING MEMORY AND READING COMPREHENSION ABILITIES IN GRADE 4 BOYS". The study shows that cognitive processes, with regard to working memory, can be improved upon and developed through conscious efforts in the way that we teach and in the way we allow learners to practice this skill in the classroom. Poor working memory appears to place a child at high risk of poor scholastic attainment. The study shows that effective comprehension can be achieved if remediation and intervention programmed utilize management strategies that ease the load imposed on working memory. This may lead to success in both schools and occupations outside of the school, as well as their personal lives. Those who can read and have high literacy memory will have better options for choosing careers, be able to access higher education and will generally lead more meaningful lives. Certainly, it will help the shift in grade 4, from learning to read, to reading to learn.
2. A research by Gu Shanshan and Wang Tongshun (2007) titled "Study on The Relationship Between Working Memory and EFL Listening Comprehension 2007, showed that working memory plays a crucial role in EFL language comprehension, it may also be important in EFL listening comprehension. When

task demands are high due to storage and processing needs, the computation will slow down, and thus some partial result from working memory processing may be forgotten. This may account for the fact that EFL listeners often seem to be able to hear everything, but either forget what they have heard easily or can not process what they have heard into meaning relationship. Accordingly EFL listening comprehension depends on the storage and processing information by the mind. Therefore, working memory may influence listening comprehension.

#### 4. The Operational Concept

As stated by Syafi'i (2015, p. 122), Operational concepts are derived from related theoretical concepts on all of the variables that should be practically and empirically operated in an academic writing a research paper. This research is correlational research which focuses on gaining the correlation between student's working memory and reading comprehension in recount text. Therefore, in analyzing the problem in this research, there are two variable used, they are variable X and variable Y. Variable X is students' working memory. It is an independent variable. Then, variable Y is students' reading comprehension, it is a dependent variable.

##### 1. Variable X ( Student's working memory)

- a. The Students can differentiate the logical and illogical sentences.
- b. The students can write the word that missing of the text.
- c. The students can infer unknown word meanings from context.
- d. The students can name the pictures rapidly.

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2. Variable Y (Student's reading comprehension)

- a. Students are able to identify the main idea of the recount text.
- b. Students are able to identify locating inferences on the recount text.
- c. Students are able to identify factual formation on the recount text.
- d. Students are able to make inferences on the recount text.

**5. The Assumption and The Hypothesis**

**a. The Assumption**

In this research, the researcher assumes that the better students' working memory, the higher their comprehension of reading would be.

**b. The Hypothesis**

**a. Null Hypothesis (Ho)**

There is no significant correlation between students' working memory and their reading comprehension at Islamic Senior High School Teknologi Riau.

**b. Alternative Hypothesis (Ha)**

There is a significant correlation between students' working memory and their reading comprehension at Islamic Senior High School Teknologi Riau

## CHAPTER III RESEARCH METHODOLOGY

### A. Research Design

Kumar (2006, p. 91) states that research methodology involves the systematic procedures by which the researcher starts from the initial identification of the problem to its final conclusions. In addition, according to Nunan (1992, p. 232) research is a systematic process of inquiry consisting of three elements or components, they are: question, problem, or hypothesis; data; and analysis and interpretation of data.

This research is correlation research, the researcher prepared a questionnaire to measure the students' working memory as "X" variable and reading test to find out the reading comprehension which is symbolized as "Y" variable.

### B. The Time and The Location of The Research

The research was conducted at Islamic Senior High School Teknologi Riau which is located at Lintas Timur street Tenayan Raya Pekanbaru. The research was conducted in December 2017.

### C. The Subject and the Object of The Research

The subject of this research is first grade students of Islamic Senior High School Teknologi Riau. The object of this research is the correlation between students' working memory and their reading comprehension in recount text.

#### D. The Population and The Sample of The Research

Sugiyono (2011, p. 117) states that population is the generalization area that consists of object or subject that has sure quality and characteristic that is determined by the researcher to be learned and to be extracted the conclusion. According to syafi'i (2015, p. 108), the population of the research refers to the total number of subjects from which or whom you obtain the data. In the other hand, a population is a group of the subject who has the same characteristic.

CLASS	NUMBER OF POPULATION
IPA	26
IPS	22
<b>TOTAL</b>	<b>48</b>

Related to the table above, the population of this research is the students of Islamic Senior High School Teknologi Riau at the First grade which is 48 students in two classes. Besides, sample refers to the population or subjects chosen or determined as the “sources of data or information” that the researcher needs in the research project.

#### E. The Technique of Collecting Data

The data of this research was collected by using a technique, as follows:

##### 1) For Working Memory Test

There are tasks that have been frequently used to measure working memory capacity. Englewoods (2001, p. 300) demonstrates that these tasks clearly reveal some fundamental aspects of cognition. Scores on these tasks can

predict a range of cognitive functions. These tests were used to measure the students' working memory. It consisted of twenty questions and every question was scored five if the students answered with the correct one.

2) For Reading Comprehension Test

This method is used to find out the students' scores in reading comprehension. Therefore, the researcher needs to test as an instrument. The writer distributed a reading test to the sample based on the topic that given. The paragraph contained four topics and twenty questions. The topics were taken from the students' books. The students were ordered to answer the questions after reading the text. The writer provides 45 minutes to the students to read texts from the books and answer the questions. If the students answered with the correct one, they were given five.

After the students did the test, the researcher then took the total score from the result of the test.

The classification of the students' score was as follows:

**The Classification of Students' Score**

Score	Category
92-100	Very Good
84-91	Good
76-83	Enough
<76	Less

**F. Validity and Reliability of Instruments**

**1. Validity of Instruments**

Creswell & Miller (2000) suggest that the validity is affected by the researcher's perception of validity in the study and his/her choice of paradigm



assumption. As a result, many researchers have developed their own concepts of validity and have often generated or adopted what they consider to be more appropriate terms, such as, quality, rigor and trustworthiness To find out the validity of instruments, researcher calculated it by using SPSS 23 version. The standard value of validity is  $r_{item} > r_{table}$ . Based on the try out result, it was determined that all of the items were valid.

The result of try out for students' working memory test is as follows:

Item Number	r-item	r-table	Result
1.	0.45	0.40	Valid
2.	0.41	0.40	Valid
3.	0.52	0.40	Valid
4.	0.51	0.40	Valid
5.	0.47	0.40	Valid
6.	0.53	0.40	Valid
7.	0.51	0.40	Valid
8.	0.60	0.40	Valid
9.	0.58	0.40	Valid
10.	0.60	0.40	Valid
11.	0.52	0.40	Valid
12.	0.56	0.40	Valid
13.	0.43	0.40	Valid
14.	0.64	0.40	Valid
15.	0.44	0.40	Valid
16.	0.49	0.40	Valid
17.	0.50	0.40	Valid
18.	0.56	0.40	Valid
19.	0.61	0.40	Valid
20.	0.64	0.40	Valid
21.	0.52	0.40	Valid
22.	0.66	0.40	Valid
23.	0.51	0.40	Valid
24.	0.44	0.40	Valid
25.	0.62	0.40	Valid

Then the result of try out for reading comprehension test was as follows:

Item Number	r-item	r-table	Result
1.	0.44	0.40	Valid
2.	0.49	0.40	Valid
3.	0.48	0.40	Valid
4.	0.52	0.40	Valid
5.	0.45	0.40	Valid
6.	0.48	0.40	Valid
7.	0.48	0.40	Valid
8.	0.56	0.40	Valid
9.	0.50	0.40	Valid
10.	0.52	0.40	Valid
11.	0.46	0.40	Valid
12.	0.41	0.40	Valid
13.	0.53	0.40	Valid
14.	0.52	0.40	Valid
15.	0.44	0.40	Valid
16.	0.43	0.40	Valid
17.	0.54	0.40	Valid
18.	0.52	0.40	Valid
19.	0.42	0.40	Valid
20.	0.52	0.40	Valid
21.	0.50	0.40	Valid
22.	0.41	0.40	Valid
23.	0.50	0.40	Valid
24.	0.45	0.40	Valid
25.	0.52	0.40	Valid

## 2. Reliability of Instruments

Reliability is concerned with the degree to which one can rely on an assessment instrument to provide consistent and dependable results. In other words, a reliable instrument will provide similar results with a similar population under similar conditions (Vandergrift, 2012:260). Reliability means reliable when an examinee's results were consistent on repeated measurement.

According to Cohen et.al, (2007) the guidelines for reliability is as follows:

No	Reliability	Category
1	>0.90	Very highly reliable
2	0.80-0.90	Highly reliable
3	0.70-0.79	Reliable
4	0.60-0.69	Minimally reliable
5	<0.60	Unacceptably low reliability

In this research, the writer used software SPSS 23 version to calculate the reliability of the test. The result of the reliability for students' working memory test is as follows:

#### Reliability Statistics

Cronbach's Alpha	N of Items
.895	25

The table showed that the reliability of vocabulary test was 0.895 which is categorized into the highly reliable level. Then, the result of reliability for reading comprehension test is as follows:

#### Reliability Statistics

Cronbach's Alpha	N of Items
.857	25

The table showed that the reliability of reading comprehension test was 0.857 which is categorized into highly reliable level.

### G. The Technique of Data Analysis

In order to analyze the data, the researcher used Pearson Product Moment correlation, calculated by using SPSS 23.00 windows program, to determine relationship between two parametric variables. The researcher wanted to find out linear relationships between those variables.

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The statistical hypotheses were as follow:

$H_a$ : sig. 2 tailed  $\leq 0.05$

$H_o$ : sig. 2 tailed  $\geq 0.05$

$H_a$ : there is a significant correlation between the student's working memory and their reading comprehension.

$H_o$ : there is no significant correlation between the student's working memory and their reading comprehension.







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## CHAPTER V CONCLUSION AND SUGGESTION

### A. Conclusion

This research was done to find out the correlation between student's working memory and their reading comprehension in recount text at the Tenth-grade students of Islamic Senior High School Teknologi Riau. So, the researcher can conclude this research as follows:

1. The students' working memory at the Tenth-grade students of Islamic Senior High School Teknologi Riau is categorized into '**Middle**' level at score 52,5
2. The students' reading comprehension in recount text at the Tenth-grade students of Islamic Senior High School Teknologi Riau is categorized into '**Less**' level at score 46,8
3. There is a significant correlation between students' working memory and their reading comprehension in recount text at the Tenth-grade students of Islamic Senior High School Teknologi Riau.

Based on the result of the research, the students' working memory has correlation with their reading comprehension. It means the better working memory they have, the better reading comprehension they get.



## B. Suggestion

Considering the correlation between students working memory and their reading comprehension, the Researcher would like to give some suggestion as follows:

### 1. Suggestion for Teachers

- a. It is recommended to teacher to teach students in improving their working memory.
- b. The teacher should be creative to improve the students' reading comprehension by giving them more activities or exercises.

### 2. Suggestion for Students

- a. The students should be creative to improve their working memory in order to get better reading comprehension.
- b. The students should pay more attention to the lesson explained by the teacher.

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