



**THE CORELATION BETWEEN THE STUDENTS' INTEREST  
IN READING SCIENTIFIC ESSAYS, SCIENTIFIC VOCABULARY  
MASTERY  
AND THEIR ACHIEVEMENT IN READING COMPREHENSION**

**THESIS**

Submitted in partial fulfillment of the requirements  
for the degree of *Magister Pendidikan* (M.Pd.)  
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by

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PERPUSTAKAAN  
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**DEPARTMENT OF ENGLISH LANGUAGE EDUCATION  
THE GRADUATE PROGRAM  
STATE UNIVERSITY OF SEMARANG**

**2007**



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## ADVISERS' APPROVAL

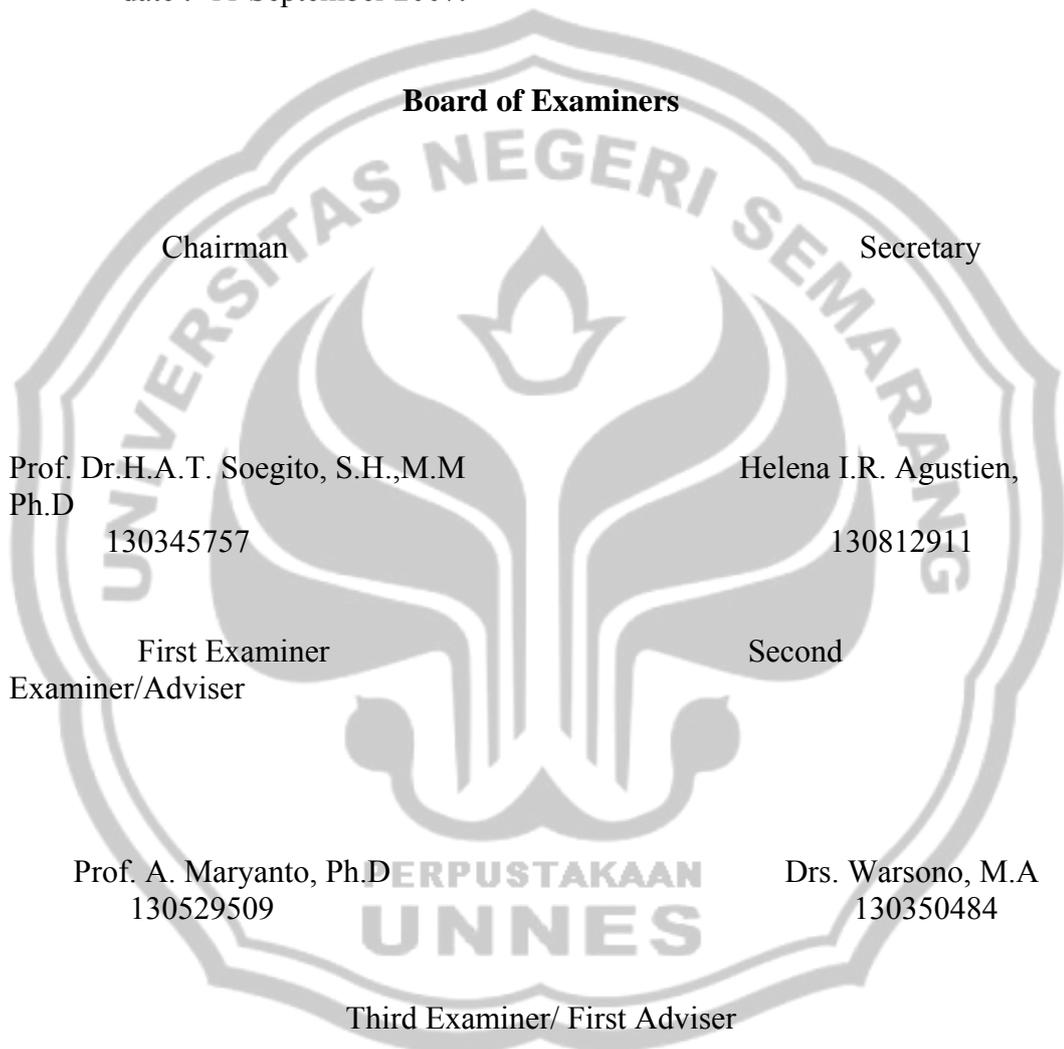
The thesis has been approved by the advisers to be examined by the Board of Examiners.



## APPROVAL

The thesis has been examined and defended before the Board of Examiners of the Graduate Programme of the State University of Semarang on

day : Tuesday  
date : 11 September 2007.



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## STATEMENT

I certify that this thesis is definitely my own work. I am completely responsible for the content of this thesis. Other writers' opinions or findings included in the thesis are quoted or cited in accordance with ethical standards.

Semarang, August, 2007

Diah Kurnia Dewi



## DEDICATION

This thesis is dedicated to:

1. My beloved children, Ezra Farid Rif'at and Farah Fadillah Naurah
2. My Sweetheart, Basuki Sepriadi
3. My Lovely Parents, Tjahyo Soebroto and Sri Kurniasih



## AKNOWLEDGEMENT

All praises be to Allah the Almighty, the Merciful, and the Most Beneficial, for all the blessing, without which the writer would never have finished her study. The writer feels indebted to a lot of people for the support, guidance, assistance and help given to her.

The writer would like to express her sincere thanks to:

1. Prof. Mursid Saleh, Ph.D, the first advisor for his encouragement, ideas, advice and valuable time in correcting every part of this thesis with all his patience.
2. Drs. Warsono, M.A , the second advisor, who has carefully read and made several corrections for the improvement of this thesis.
3. Drs. Slamet Utomo, M.Pd, the Head of English Department of Muria Kudus University for his permit to do the research project in his Department.
4. The fourth semester students of English Department of Teacher Training and Education Faculty, Muria Kudus University who joined Reading IV.

The writer has tried hard to arrange this thesis as well as possible, but she realizes that the thesis is still imperfect. Therefore some constructive criticisms and suggestions from the readers will be appreciated. It is hoped that this thesis will provide beneficial information for all others interested in this topic.

The writer

## ABSTRACT

Diah Kurnia Dewi. 2007. *Correlation Between Students' Interest in Reading Scientific Essays, Scientific Vocabulary Mastery and Their Achievement in Reading Comprehension*. Thesis. The English Language Education. The Graduate Studies Program of The State University of Semarang . Advisers: I. Prof. Mursid Saleh, Ph.D., II. Drs. Warsono. M.A.

**Keywords:** Interest, Scientific Essays, Scientific Vocabulary, Achievement.

The objectives of the study are to reveal whether or not there is a significant correlation between students' interest in reading scientific essays, scientific vocabulary mastery and their achievement in reading comprehension.

The writer stated the working hypothesis of the study as follows: "There is a significant correlation between students' interest in reading scientific essays, scientific vocabulary mastery and their achievement in reading comprehension." The hypothesis was changed into null hypothesis that is "There is no significant correlation between students' interest in reading scientific essays, scientific vocabulary mastery and their achievement in reading comprehension". The research methodology used was descriptive statistical study. To collect the data, the writer used a questionnaire and a set of tests.

After getting the score of the students' interest and the scores of the vocabulary mastery and the score of their achievement in reading comprehension, the data were statistically computed to find out the correlation between three variables.

The result, both the students' interest in reading scientific essays and scientific vocabulary mastery have significant correlation with their achievement in reading comprehension. The value of correlation coefficient R is 0.571 or 57.1%. It means that both the students' interest in reading scientific essays and scientific vocabulary mastery influence their achievement in reading comprehension.

Based on the result of the experiment, the writer suggested that in teaching reading, the lecturers should train the students with a lot of practice in reading scientific essays and scientific vocabulary mastery. On the other hand, students should read scientific essays as much as possible to enrich their knowledge.

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# CHAPTER 1

## INTRODUCTION

### 1.1. BACKGROUND OF THE STUDY

There are many languages used in international communication. One of them is English. This language is used world-widely in sciences, knowledge, and technology as well as education, business, transaction, and other activities in the world. In Indonesia English is a foreign language. So, Indonesian people tend find it difficult to learn it. If someone wants to learn English very well, she/he should know the four skills. They are listening, speaking, reading and writing. Besides, she has to master the language components, such as: phonology, grammar, vocabulary, and pronunciation to support the four skills.

In this century, English is one of main languages used in International communication. Mastering English means practicing the four skills of English very well. For example using English someone wants to explain how and why the rain happens. The problem is how she gets the knowledge, or how she attains the understanding. The answer is through the four skills: writing, speaking, reading and listening. Here, the writer emphasizes only on one of the four skills to be conducted which is reading.

“It is very important for teacher to establish reading skills for their students. Many specialists defined reading as the process of putting the reader in contact and communication with ideas. Reading is simply one of the many ways

in which human beings go about their basic business of “making sense of the world”(Carrel et al., 1992:32)

Grabe as quoted by Simanjuntak (1988:381) says that reading, for instructional purposes, is the ability to recognize vocabulary and syntax automatically, the ability to read at a reasonable rapid rate, depending on the context, the ability to grasp the main idea and scan for a piece of information, and the ability to adjust rate and adapt strategies careful for analytic reading and critical evaluation.

There is a variety of reasons why people read. The followings are the kinds of reading that are categorized according to the reasons for reading which lead people to read in different ways:

1. Reading for Specific Purposes.
2. Reading for Enjoyment.
3. Reading for Understanding.
4. Reading for Social, Culture and Scientific Analysis.

Actually reading is a skill which must be developed. Obviously, the student must know the process of developing reading skill to the extent that s/he uses the process as s/he reads and studies on what s/he has earned. Relevance of the skill must be apparent. This means that the student must be aware of what the reading skills are (Simanjuntak 1988:13).

In learning English, people cannot only master one skill. They have to master all of them. The reading skills, however, are viewed as a tool of communication in the written language through the form of magazines,

newspaper, textbooks and others. So it can be concluded that the reading skill is very important for people who mostly learn English through written texts. As Ward (1990:12) says that reading is one of the fruitful skills to teach, the majority of the students may never speak much in English but most of them will have to read English in order to complete their studies.

If someone learns English she has to master the language components, such as: phonology, grammar, vocabulary, and pronunciation to support the four skills because they are very important.

Vocabulary, which consists of the knowledge of meaning as the main component of a language, should be taught together with reading, structure and conversation. So, ideally vocabulary should be part of reading course because one needs the mastery of vocabulary to comprehend the reading passage.

It is a fact that vocabulary is one of the components of language. There are no languages that exist without words. They are the means by which people exchange their thought. The more words we learn, the more ideas we should have. So, we can communicate the ideas more effectively.

It can be concluded that the reading skill and vocabulary mastery are related in comprehending essays especially scientific essays on which the writer is conducting a study.

Carin and Sund (1989:4) claim that science means the system of knowing about the universe through data collected by observation and controlled experimentation. Further they explain that science is a way of thinking, a way of

understanding the world and they also say that scientific means thought which applies not only to explorations of the physical universe, but to all the realms of intellectual inquiry that require hypothesis, inference, and other tools of brainwork.

In reality, the students of English Department of UMK have problems in understanding scientific essays written in English. The writer can say that because the grade of Reading IV is not satisfied. Almost 65% students of Reading IV get low mark in comprehending scientific essays. There are some factors affecting achievement in reading comprehension. The writer only limits two factors; interest and vocabulary mastery.

Zorn (1980:73) classifies the problems into two, one of them is confidence problem. A reader who is faced with confidence problem is typically an insecure reader who believes that to comprehend a text he must first comprehend every word in the text. He may therefore, deliberately read very slowly, proceeding word by word, a strategy which is going to be analyzed whether it optimizes the achievement in reading comprehension or not.

A reader with confidence problem usually feels insecure when s/he comes across a single word that is difficult. Most people have probably heard some complaints from reading comprehension classes that goes like this : “ This passage contains so many difficult words that I need a long time to look them up in my dictionary or I have not finished reading the passage but the time is over “.

Learning to comprehend is complex and many factors affect how to comprehend better. In a class room, lecturers should be able to detect and

overcome the problems that could lead to their reading comprehension weakness. To some extent, the reading comprehension weakness is caused by internal factors of the learners, such as attitude, aptitude, motivation and interest. Those factors can not be ignored in teaching reading comprehension.

Interest is one of the learner's internal factors. It may have a significant influence on the student's reading ability. Kartini Kartono (1985:3) says that if a student has a strong interest in learning a subject, she or he will, of course, pay attention to that subject. On the other hand, if she or he doesn't have any interest, she or he will be reluctant to pay attention to the subject being learnt.

Based on the above explanation, a research on students' interest in reading scientific essays, scientific vocabulary mastery and how they are related to their achievement in reading comprehension was conducted to find out whether there is a significant correlation.

## **1.2 REASON FOR CHOOSING THE TOPIC**

Carin and Sund (1989:210) have stated that interest in reading and vocabulary mastery may influence the students' achievement in reading comprehension. In order to prove whether or not their statement is true, the writer conducts this study. This is the reason why she selects this topic for her study. It is no exaggeration to say that the students' interest in reading and vocabulary mastery should be considered as the important factors in reading comprehension. It does not mean the writer considers the other internal factors unimportant.

Vocabulary plays an important role in reading activity. Actually, most of English learners' activities deal with reading activities, such as: reading books,

magazines, literature etc. Therefore they should have a larger vocabulary in order to comprehend and understand the content of the book.

Reading comprehension is very important for Indonesian students especially those who take English as their major in university. It is crucial for Indonesian students because reading comprehension is a bridge to understanding scientific books written in English, either to obtain information or to enjoy them or just for relaxation.

Since the investigation into students' internal factors, i.e. interest, aptitude, motivation and intelligence will be too complex, the writer has to limit herself to students' interest in reading scientific essays, scientific vocabulary mastery and how they are related to the achievement in reading comprehension.

### **1.3 STATEMENT OF THE PROBLEM**

This study tries to answer the following questions :

- a. To what extent is interest of the students of the English Department of UMK in reading scientific essays?
- b. To what extent do the students of the English Department of UMK master the scientific vocabulary?
- c. To what extent do the students of English Department of UMK achieve in reading comprehension?
- d. Is there any significant correlation between the students' interest in reading scientific essays, scientific vocabulary mastery and their achievement in reading comprehension?

#### **1.4 OBJECTIVES OF THE STUDY**

The objectives of the investigation can be stated as follows:

- a. To find out the students' interest in reading scientific essays;
- b. To find out the students' scientific vocabulary mastery;
- c. To find out the students' achievement in reading comprehension;
- d. To find out whether (or not) there is a significant correlation between the students' interest in reading scientific essays, scientific vocabulary mastery and their achievement in reading comprehension.

#### **1.5 SIGNIFICANCE OF THE STUDY**

The writer hopes that the result of this study will provide:

- a. Information that interest in reading scientific essays will help students of the English Department to master English well.
- b. A feedback in the English teaching learning process so that the objectives of the English teaching especially in reading comprehension can be achieved.

#### **1.6 HYPOTHESES**

The hypotheses of this study are as the followings

- a. There is a correlation between students' interest in reading scientific essays and their achievement in reading comprehension.
- b. There is a correlation between students' scientific vocabulary mastery and their achievement in reading comprehension.

c. There is a correlation between students' interest in reading scientific essays and scientific vocabulary mastery and their achievement in reading comprehension.

## **1.7 DEFINITION OF THE KEY TERMS**

With reference to the title of the thesis, some terms namely interest, vocabulary, scientific, reading comprehension and achievement need to be defined in order to avoid various interpretations.

### **1.7.1 INTEREST**

Benjamin S Bloom (1971:16-17) defines interest as the terms of the individual's liking, enthusiasm, preference, and desire.

### **1.7.2 VOCABULARY MASTERY**

Vocabulary Mastery is the power of perceiving, governing and using English words in isolation, in phrases or sentences and in whole word contexts.

### **1.7.3 SCIENTIFIC ESSAYS**

Scientific Essays mean any kinds of literatures, books, magazines, etc which are dealing with science. In this study, science means the knowledge of medicine and health, biology, astronomy, geology, and technology.

#### **1.7.4 ACHIEVEMENT**

Achievement is students' competence in English that includes vocabulary, and reading comprehension. The vocabulary materials consist of the matching item test. The reading materials consist of multiple choice questions and cover themes and sub themes the students have learned and the length of the text is about 100-200 words. The vocabulary and reading comprehension test is listed in Appendix 1.

#### **1.7.5 READING COMPREHENSION**

Reading comprehension means the power to understand printed or written materials that require ability to recognize words accurately, to identify main ideas, and to know the details. The reading materials cover themes and sub themes that the students have learned and the length of the text is about 100- 200 words.

#### **1.7.6 STUDENTS**

This term refers to the fourth semester students of the English Department of UMK 2005-2006

### **1.8 OUTLINE OF THE THESIS**

This thesis consists of five chapters.

Chapter I, Introduction, presents the background of the study, reasons for choosing the topic, statement of the problems, objectives of the

study, significance of the study, clarification of the key terms and outline of the thesis.

Chapter II, Theoretical Foundation, presents the discussion or some theories of reading comprehension, interest, and scientific vocabulary mastery, what the reader aims at when he reads written material. It will also present the testing on interest, scientific vocabulary and reading comprehension between the students' interest in reading scientific essays, scientific vocabulary mastery and their achievement in reading comprehension.

Chapter III, Method of Investigation presents the discussion on population, sample, variables of investigation, procedure of collecting the data and the instrument which is used to collect the data.

Chapter IV, Data Analysis, presents the method of measuring students' interest in reading scientific essays and scientific vocabulary mastery, of scoring students' achievement in reading comprehension, and of analyzing the correlation between the students' interest in reading scientific essays, scientific vocabulary mastery and their achievement in reading comprehension using the Pearson Product Moment.

Chapter V, Conclusions and Suggestions, presents the conclusion of the investigation and the suggestions to improve the teaching and learning of reading comprehension.

## CHAPTER II

### REVIEW OF RELATED LITERATURE

#### 2.1 Nature of Reading

Reading is an attempt to look for information. A student's activity to seek for information from school text book is called reading. Even, a driver's activity, which is searching for the direction on the street, may also be called reading. Shortly, reading is not only considered as an activity to understand words in a printed material but also to understand the phenomenon of the words. Even some people say that a person can also be read as a text. Indeed, reading by nature is to understand a text in any forms including printed or non-printed materials.

##### 2.1.1 Definition of Reading

There are various definitions of reading. Haris and Sipay (1980) define reading as the meaningful interpretation of printed or written verbal symbols. It means that reading is a result of the interaction between the graphic symbols that represent language and the readers' skills, cognitive skills and the knowledge of the world. In this process, the reader tries to recreate the meaning intended by the writer. Gates (cited in Harris and Sipay, 1980) says, "Reading can and should embrace all types and thinking, evaluating". Goodman as cited in Carrel (1992:12) points out that reading is a receptive language process. It is a psycholinguistics process in that it starts with meaning which the readers

construct. There is thus an essential interaction between language and thoughts and reader decodes language to thought.

Haris as cited by Olson and Dillner (1982:5) defines reading as a process of meaning elaboration or thinking in relation to written symbols. This definition presupposes that two aspects are essential to reading process, word recognition and comprehension. He also adds that reading may range from the visual perception of word forms and their meanings to perception and comprehension of written messages in a manner parallel to that of the corresponding spoken messages.

Ronald Mackey (cited in Simanjuntak, 1988:15) also gives a definition about reading.

“Reading is an active process. The reader forms a preliminary expectation about the material, then selects the fewest, most productive clues by necessary to confirm or reject that expectation. This is a sampling process in which the reader takes advantage of his knowledge of vocabulary, syntax, discourse, and the “real world”. Therefore, reading involves on interaction between thought and language. It means that the reader brings to the task a formidable amount of information and ideas, attitude and beliefs. This \knowledge, coupled with the ability to make linguistics predictions, determines the expectations. The reader will develop as he reads. Skill in reading depends on the efficient interaction, linguistic knowledge and knowledge of the world”.

Bond (1984) defines reading as the recognition of printed or written symbols that serve stimuli to recall of meaning built up through the reader’s past experience. It means that when a reader reads a written material, he involves his background experience to derive the meaning from the printed symbols. In other words, he uses his prior experience and acquired language facility to gain meaning of each sentence he reads. As a matter of fact, the meanings of new

words are derived through the collaboration of various concepts that he already had in his mind. Therefore, when one reads a text, he makes an interpretation, evaluation and reflection on those meanings intended by the writer. In this case, Scott (1977) mentions that reading is a two-fold process which requires identification of the symbols and the associations of appropriate meanings.

In reading activity of written or printed material, there are two subjects involved, i.e. the writer and the reader. The writer conveys and presents his/her message through the written symbols and the reader gets the message from them. In this case, Scott (1977) points out that reading always involves an interaction between the writer and the reader. Reading also requires the communication of a message and it requires a language system- a sign system in which messages are formulated or encoded. It is clear that the process of reading requires not only skill in identification of words- in grouping words into thought units and in noting every detail of printed symbols- but it also requires the sum of all the readers' experiences and the skills as well. Therefore, in order to make sense of the reading material being read, a reader must be able to use his past experience and match it with the verbal symbols provided.

With different perspective, Bond (1984) argues that reading is a thinking process. Reading would be ineffective unless it is accompanied by thinking- reconstructing the ideas of others. Therefore, it is important to consider that the reader of a printed material must involve his mind for thinking as it is very essential to read. Indeed, reading without thinking will be meaningless.

To sum up, reading is not merely a process of reading words by words of a printed material but it is also a collaboration of a thinking process, a recollection of the past experience and the capacity of acquired language faculty to interpret the writer's intention. In addition, reading can also be said as a process of matching information since in reading activity, the reader matches his information that he has already had with the printed material in order to get the writer messages. Reading can simply be viewed as the process of the readers' thinking in relation to written symbols to get comprehension; it is also an interactive process between the reader's prior knowledge and what the writer writes.

### **2.1.2. Importance of Reading**

Nowadays reading becomes more and more important. In the development of science and technology, being able to read well is very beneficial. Moreover, to some extent, reading is required such as at work and at school. Through reading a lot someone will improve his/her capability. As a result, people can communicate well when they have prepared some information by means of reading. Indeed, reading is needed as a channel of communication with the global community.

People read because they want information, they need to find out how to solve problems or to buy something wisely. In addition, people read because they are concerned about economical, cultural, or political issues or even they do so because they are interested in the latest news. Besides reading for getting information, people also get pleasure, they read book to escape the pressures and confinements of their own lives by amusing themselves in fiction stories or

novels. Another reason why people read is to enjoy discovering insights and ideas that illuminate their own experience and simultaneously help them understand themselves and the world around them. This is in line with the opinion mentioned by Ramelan (1972) that people read because they want to keep informed about their surrounding, to question and think more deeply about their own ideas and experiences, to consider the experiences and the ideas of others, and to confirm their own beliefs.

### **2.1.3. Purposes of Reading**

Most of reading authorities regard purposeful reading as a means of developing reader's ability and skills that is necessary to secure information and derive pleasure. In other words, reading helps the readers to focus on the specific word data selection on the printed symbols and in turn to send the message to their mind. Besides, reading also helps readers to process and to select the data that has already existed in their mind. Comprehension, therefore, has been regarded the most important part of reading, that is, when one has a purpose for reading, his effort may become more goal-oriented. This means that what we are and why we are reading will determine how we feel about reading. If, for example, one is reading a light magazine for leisure time entertainment, he might scan it quickly. On the other hand, if he is reading such a scientific article for getting information, he might read it more seriously and even read it more than once.

Obviously, it is quite different between reading merely for having pleasure and reading for getting information. The quick scanning on the telephone

directory, for example, does not need any comprehension than that of articles of magazine does. As a result, the purposeful reading cannot be merely regarded as gaining information from the printed symbols but also developing reader's ability skill and technique in comprehending what the writer intends to say. As the reader's ability will improve through the long experiences of reading, he also develops his maturity and independence in reading. In turn, he will be able to set his own reading purposes.

## **2.2 Reading Comprehension**

Reading and comprehension are two terms which are always interrelated. In reading, there will be a process to understand and comprehend a text; hence comprehension. On the other hand, comprehending a text entails reading.

According to Bond, Pinker and Wasson (1979:3) in our world, reading more will provide more information and it makes our knowledge become increasingly great in numbers. Clark and Sandra (in Simanjuntak, 1988:15) define reading as an active cognitive process of increasing with print and monitor comprehension to establish meaning. Kennedy (1982:5) has an argument that reading can be defined as the ability of an individual to recognize a visual form; associate the form with a sound and or meaning acquired in the cover and on the part of experience, understands, and interprets its meaning.

From the statement above, reading is a process that is done and also is used by the readers to get the message. Finocchiaro (1974:77) says: "Reading is getting meaning from the printed or written material."

How far is someone said to be successful in reading material?

In relation with this, Morrish (1976:26) states:

“The reader is called upon, not only to understand the message of the author, but also to reflect upon it, assess its value by comparison with previously learned concepts and finally to reach out in imagination to new real as a result of the stimulus of the text”.

According to Recheck Lost and Learner (1983:7), in general, in reading the ability to recognize word and to comprehend literal meanings are important components. The reading levels for the students are immediate, the definition of reading includes a deeper understanding of passages.

In order to comprehend reading selection thoroughly a person must be able to use the information to make inferences and read critically to understand the figurative, determine the author’s purpose evaluate the ideas presented, and apply the ideas to actual situations. All of these skills involve thinking process (Burns, 1984:10-11).

According to Kennedy (1991:12):

“Comprehension is facilitated reading appropriate materials, intellectual curiously, and desire to learn. The definition of comprehension can be stated as follows: the ability of pupils’ it finds, interprets, and uses ideas comprehension”.

Heilman (1981:242) says that reading comprehension is a process of thinking sense of written ideas through meaningful interpretation and interaction as a multifaceted process affected by several thinking and language abilities.

Kennedy (1991) says that:

“Reading comprehension is a thinking process by which pupil selects facts information, or ideas from printed materials, decides how they relate to previous knowledge he has acquired, and judges their appropriateness worth for meeting his own needs and objectives.”

It is noteworthy that Greene and Petty (1963) say that before comprehending the meaning, the printed page is just ink on paper, it contains no meaning. In other words, meaning comes from the reader's mind, therefore, it can be said that comprehension means the process of relating the new information to the information that has already existed. It is also in line with Yoakam's opinion as quoted by Dechant (1977) that comprehension includes association of meanings with word symbols, evaluation of meanings which are suggested in context. Besides that, it also includes selection of correct meaning, organization of ideas as they are read, retention of ideas, and use in some present or future activity.

Reading without comprehension is not a real reading. It is reading when a reader reads a printed page by recognizing and also comprehending the meaning of the text. Obviously, a real reading is reading with understanding or comprehending. Either reading is done to get information or merely to get pleasure; a reader has to comprehend what he reads. Accordingly, the real purpose of reading is comprehension.

As a matter of fact, comprehending a text is not an easy thing. A reader is not only compelled to understand the existing words, rather he must be aware of the language pattern. In this case, Dechant (1997) points out that in order to comprehend a text, a reader needs to understand the language pattern. He must be able to recognize the structural elements composing a sentence and he must also perceive the syntactic interrelationship of the elements.

In the process of comprehending a text, there are three levels of comprehension; i.e. literal, interpretation and critical reading as well.

1. Literal comprehension: getting the primary, direct , literal meaning of words, ideas or sentences in the context;
2. Interpretation: getting deeper meanings- anticipating meaning, drawing inferences, detecting significance, making comparisons, and identifying purposes.
3. Critical reading: evaluating the quality, accuracy or the truthfulness of what is read. (Dechant and Smith ,1977)

Indeed, those who have achieved the highest level of reading comprehension will get a better progress in reading any kinds of text. Nevertheless, it is important to note that the success of reading comprehension does not merely depend on one's ability to read but it also depends on other factors.

### **2.2.1 Development of Reading comprehension.**

Robert L. Zorn (1980) gives steps to develop outstanding comprehension skill. Firstly, it is attention. It is an absolute prerequisite to intensive mental impressions. Impressions from the printed page are the essence of comprehension. In fact, the intensity of the original impression is proportionate to the attention given to the items to be remembered. Secondly, it is interest which is very important in the process of reading. If a reader is deeply interested in the content of the selected text, he will be concerned with the message being conveyed by the author. The third point in improving comprehension is a

purpose. The purpose in reading plays an important part in the amount of comprehension. Fourthly, it is concentration. It is the purpose of holding attention to establish the vivid impressions that contributes so much to recall abilities.

From the statements above the writer concluded that, in order to comprehend a reading selection, a person must be able to use information to make conclusion and to read critically, to understand the figurative, to determine the author's purpose, to evaluate the ideas presented, and to apply the ideas to the actual situations.

### **2.2.2 Factors Affecting Achievement in Reading Comprehension**

There are some factors affecting achievement in reading comprehension. They are internal and external (Bond:1984).

#### **a. Internal Factors**

These factors come from the learners themselves. These factors comprise:

##### **1. Physiological condition**

This factor has some influences on one's learning activities. A learner who has good health usually achieves higher degree of success than a weak one.

##### **2. Psychological condition**

Some major psychological factors which have influence on learning process and achievement are as follows:

##### **a) Intelligence**

Intelligence is a very important factor in learning something. A learner with high intelligence quotient is usually more successful than the one with lower IQ.

b) Talent

It is undeniable that when a learner learns a subject suitable to his talent his possibility to achieve success is greater.

c) Interest

If a student learns a subject with a strong interest, he is usually successful. On the other hand, if he does it without an interest or with low degree of interest, he usually fails.

d) Motivation

Motivation can be described as the students' need to learn or the driving force that makes them work hard. If the students have reasons in doing something, they will learn more rapidly and effectively. Their motivation may come from the students themselves, or may be environment encourage them to do so.

e) Emotion

Unstable emotion such as being easily offended and easily depressed will decrease the possibility to achieve success. While ease and freedom will facilitate learning.

f) Cognitive ability

This ability refers to ability in understanding or comprehending terms. The higher the cognitive ability a student has, the higher degree of success he will achieve.

**b. External Factors**

These factors come from outside the learner:

### 1) Setting

a) Natural setting is natural condition which affects the success of learning. For instance: weather, seasons, temperature and other natural phenomena. Learning processes usually become more effective under fresh air.

b) Social setting includes family and other social situations such as traffic, crowds, etc.

### 2) Instrument Factors

These factors can be manipulated in order to achieve learning goals. These factors are curriculum, programmer, facilities and teachers.

### 2.2.3 Reading Process

Reading is one of the basic communicative skills, but it is a very complex process. In the process of reading, there are some factors which influence reading comprehension. They are

#### 1. Background Experience

In the writer's opinion, reading is actually the activity of relating something we do not know to something we have already known. Therefore, the previous experience of the reader is very important in anticipating the authors' message. Heilman (1981:50) says, "Previous language experience is probably most important as it related to the specific task called reading".

This idea is confirmed by Harris (1976:39) who says, "The ability to reconstruct meaning from printed page, including various kinds of skills and style the writer has, is based on the reader's previous experiences with a topic, his

familiarity with key concepts and his knowledge of how language works". So, good readers must have the ability to relate the text to their own background knowledge efficiently.

Take for example, a child who often goes to the zoo to observe the animals they will have better comprehension when they come to reading a passage about zoo compared to those who have never done such a thing. Comprehension then is personal. The achievement will not be the same for all students although they are taught in the same class, by the same teacher, using the same material and the same techniques.

## **2. Language abilities**

Reading and language are two things that cannot be separated because reading is one of the skills in learning a language. When a child learns to read the same time he learns a language. If his knowledge about the language is good, it is assumed that his ability in reading will be good too. The language abilities here refer to the abilities of a student in using a language. It includes the ability to understand the structure underlying the passage and the vocabulary of the language he learns.

## **3. Thinking abilities**

Thinking abilities refer to the students' ability to link their new experience with their previous experience. Burns (1984: 10) says, "Reading is thinking process".

Readers should think in the act of recognizing words. Teachers and lecturers in class can develop the students' ability in thinking by giving them appropriate questions to comprehend. The questions should be good enough so that the students' are not asked to quote parts of the passage only, but they must be concerned with the main ideas and understand the purpose of the author.

#### **4. Reading Purpose**

The main purposes for reading are :

- Reading for pleasure, and
- Reading for information

(Harris, Larry, et al. 1976: 248)

#### **5. Affection**

Interest, motivation, beliefs and feeling belong to affection and they will greatly influence a student's comprehension.

When a person is reading a piece of writing, his background experience will engage with his language abilities. Through his thinking abilities, he will comprehend according to his purpose in reading. Meanwhile his interest, motivation, beliefs and feeling will influence the results of the comprehension.

Moreover, Alexander (1988 : 161-162) states the following factors influence reading, they are reading material, the total program of reading instruction, the child's own personality, attitude, interest, motivation, habits, out of school environment, reading rate, memory, the ability and background

experience, including the cultural language patterns, and the length and the difficulty of materials.

From the explanation about the factors influencing reading, the writer concludes that interest is one of the important factors toward reading.

#### **2.2.4 Affective Factors of Successful Reading**

Meanwhile, Alexander (1988:4) has identified several affective factors that are related to reading comprehension which include self-concept, autonomy, environmental mastery, perception of reality and anxiety.

1. Self-concept can be regarded as self-confidence, liking one self and a feeling of appreciation by others. When a child feels that he is not competent because of other children's and teacher's behaviors, he may give up and become a disruptive force in the classroom. In such situation, reading achievement may stay at low level since the child cannot or will not concentrate on the task.
2. Another factor that is considered to have an influence on reading achievement is autonomy. Autonomy refers to independence in thought and action. Children with the independence tend to process:
  - a.. The ability to complete tasks they understand without disturbing the teacher every minute with a question.
  - b. The ability to follow a series of tasks directions one after the other instead of completing one task and getting sidetracked and
  - c. The ability to plan themselves rather than waiting to hold what to do.

3. Still another factor that has been identified as one of the affective factors is environmental mastery. When a child has mastered his environment, he is satisfied that he can affect what happens to him. He has some control over his own fate. The child who has a limited environmental mastery will probably read less than a child who appropriately masters his environment.

4. Perception of reality is also one of the affective factors. A child perceives reality when he sees himself accurately as an individual and as a person who is relating to his setting. Poor readers appear to be less realistic than good readers in estimating themselves as readers.

5. The last factor is anxiety. Many students are anxious when confronted with a test situation. Students experience comparable reactions to anxiety when approaching reading tasks; anxiety may exhibit pulse processing or anxiety may enhance it. The role of anxiety in learning to read remains inconclusive because students reactions vary so much and since different levels of anxiety produce different response even in one student.

### **2.3 Interest**

Interest can be developed through motivation. A wise teacher would motivate his or her students before starting his/her lesson in class. Nasution (1977) says that motivation is all resources to encourage a person to do something. I believe that to get the students interested in reading, motivation is needed. Reading in the limited sense or in the broad sense is interesting. Interest motivates one to read and put effort because the reading selection is interesting.

Usually a person knows more about a topic in which she/he has interest that makes reading comprehension easier.

Therefore it is necessary to present some definitions or theories of interest as proposed by psychologists in order to have a clear description about what interest is.

Benjamin S. Bloom (1971:16-17) defines interest as behaviorally in terms of whether or not the individual would voluntarily engage in additional learning tasks and they are free to make such a choice. Further he explains that interest can be defined more subjectively in terms of the individual's liking, enthusiasm, preference, and desire.

Norman L. Munn (1966:180) defines interest as attitudes favorably disposing one toward some object, situation, or idea.

Brown D. S. and Lent W.R (1984:99-100) explain

The interest of an individual can be defined as his (or her) like for, dislike for, or indifference to something such as an object, occupation a person, a task, or an activity. Interests are one aspect of what is broadly considered as the motivation of an individual. Thus, interests are a part of the person's personality structure or organization. When the individual's interest is described in relation to occupations or the world of work, we speak of his (or her) vocational interests.

They further explain that most major interest theorists (Berdie, 1944; Darly, 1941a; Darly and Hagenah, 1955; Strong, 1943; Super, 1949) have included five determinants of interest in their theories.

1. Interest arise from environmental and/or social influence.
2. Interest arise from genetic.
3. Interest arise from personality traits.

4. Interest arise from motives, drives, or needs.
5. Interest arise from expressions of self concept.

These determinants may be classified as dynamic factors or static factors. The dynamic point of view describes vocational interest as the product of a wide range of psychological and environmental influences and emphasizes the effect of socialization and learning on the development of interest. The static point of view regards interest as genetically predetermined.

On the other hand, Dr. Abdur Rauf (1976:244) explains more about the role of interest. He states:

The amount of interest taken in the material to be committed to memory also determines the degree of forgetfulness. If the memorization is accompanied by the interest, keenness and enthusiasm of the learner it is forgotten very slowly. Similarly, a learning situation which involves interesting movements, playful activities, etc., has more chance to prevent or decrease forgetfulness than a boring learning experience which is devoid of any exciting and engaging element.

From the statements above, the writer concluded that the learning process does not only need the subject but also internal factors such as interest can be included in teaching reading.

### **2.3.1 Factor Influencing Interest in Reading**

One's interest is not his nature but it develops through several steps as well as his growing. Simanjuntak (1988:5 2) says that interest is not fixed character since his birth, and it is not a thing that cannot change. Like one's age, interest changes in form and content, that is why every step in age is followed by

an improvement of interest. Interest can be created and kept, so that a teacher is expected to do good things to his students.

Purves and Beach, as quoted by Alexander (1988:407) classify the factors influencing interest in reading in two main headings.

#### 1. Personal

The factors included in this category are age, gender, intelligence, reading ability, psychological needs and attitude.

#### 2. Institutional

The factors included in this category are availability of books, socioeconomic status and ethnic background, peers, parents, teacher's influences, TV and movies.

Harris and Sipay (1980:257) also give two additional factors influencing interest in reading, i.e. the illustration and difficulty level of materials.

Futhermore, Bond Guy.L., et al. (1984:382) state the factors that have influence on interest in reading are availability of material, attitude towards reading, the competition for leisure time between reading and leisure time activities, guidance towards higher quality of reading, and reading ability.

## **2.4. VOCABULARY**

### **2.4.1. Definition of vocabulary**

To know what vocabulary is, it is essential to clarify the general meanings and also the various types of vocabulary.

As one of the linguistic elements, vocabulary is defined as a lexical unit of a language that has a form or an expansion that is associated with a content or meaning. In this case, the choice of vocabulary should be limited to the learners' needs and experiences and their environment as well. Clearly, Hornby (1992) defines vocabulary as:

- a. A total number of words which ( with rules for combining them) make up a language.
- b. (Range of) words known to or used by a person in trade, profession, etc.
- c. A book containing list of words usually with definition or translation.

Bella Fiore (1968:1) defined a word or vocabulary as a verbal label that represents a concept or idea. It is the currency of thought. Albert J Harris and Edward R Sipay (1981:459-460) also have similar opinion of definition about vocabulary. They state a word or vocabulary is a verbal label that represents a concept or idea, as children mature, the concept represented by the word gradually become refined and accurate. Holt (1966:80) has a different definition about vocabulary. He said that vocabulary is an alphabetical list of the word used in a book, often including their translation or definition.

From the definitions given above the writer concluded that vocabulary is a list or a series of words that is used to express the idea and it is used for general communication, or in other words, vocabulary is a stock of words making up language understood by a particular person.

According to Sitters (1991:1-3) the things related to the introduction of shaping the vocabulary are as follows:

a. The role of vocabulary

Learning language can not be separated from the dictionary because the dictionary can give the explanation of words if students do not know about the meaning. In learning English the students must have a good dictionary or at least two dictionaries, those are an advance dictionary and a small one. The advance one is better because it is more complete than the small one. The small dictionary usually only gives short definition and less explanation.

b. The students' memory

Saving vocabulary in a small notebook is an effective way to control the students' memory in remembering new vocabularies. It will be easy to be brought everywhere. The students can write the vocabularies that they heard or found and open it again whenever they need. Besides the notebook, the students can use flash cards. They can write the foreign word on one side and the definition on another side of the card. Whenever they have spare time they can check or see the card and measure how many words they have remembered.

c. Educated guessing

In fact, the students will meet some difficult words, especially on reading comprehension. They find some words that they only know the meanings from the context or statement. They just guess even though sometimes they do not know the exact meaning or definition of these words. Thus, the students may not always

find the meaning of the words in a dictionary every time they find new words because by knowing the context they can find the meaning of those foreign words.

The writer concluded that vocabulary is the important thing beside many factors in learning English. Without mastering vocabulary, it is impossible to master English well. The more vocabulary items the students get, the easier it is for them to increase their English skills.

#### **2.4.2 The Types of Vocabulary**

Vocabulary can be categorized into several types, i.e. understanding vocabulary, speaking vocabulary, writing vocabulary and potential or marginal vocabulary (Rush, 1986). Out of them, only understanding vocabulary which is related closely to the instructional settings in developing reading progress. Consequently, this study will focus on this type of vocabulary.

As a type of vocabulary, understanding vocabulary can be subdivided into two items, i.e. (a) listening: the words are individual recognizes and comprehends through listening; and (b) reading: the words are individual recognizes and comprehends through reading.

Rush (1986) states further that an individual reading vocabulary is vocabulary which responds in reading through recognition of words and comprehension of its meaning. It becomes clear that reading is not only recognition of words but it also involves getting meaning from the recognized patter of the symbols on a page. One can gain meaning from symbols only if he can bring meaning to the recognition of those symbols; and the meaning lies in the

mind of the reader. In both reading and listening, some word meanings can be gained from the context in which they appear even though the reader or listener has never encountered them before and might not know them otherwise.

Vocabulary may also be divided into passive and active vocabulary. The first one relates to a receptive process of facing words through reading and listening, hence receptive vocabulary: while the second has something to do with productive process of expressing words in speaking and writing, hence, productive vocabulary. In addition, passive vocabulary refers to vocabulary that one knows its meaning and usage in a certain context. On the other hand, active vocabulary refers to vocabulary that one knows and uses actively to convey his opinions, ideas and feelings as well in the forms of writing and speaking.

#### **2.4.3. The scientific vocabulary mastery**

The Latin word of science is “scientia” or “scire” which means to learn, to know. In its widest sense, it means learning or knowledge. But the English word “science” is used as a shortened term for natural science.

What is science? Almost everyone who defines science or indicates the purpose of science has a more or less unique understanding of what science is. However, as we look at definitions and descriptions of science, we find certain similarities. Lachman, Conant, Kemeny, and Clagget as cited by Henson and Janke (1984:7) explain science refers not merely to the data acquired by the scientists and the generalizations derived, but to the fundamental objective, basic

assumptions principal operating, conceptions, and general methodology typically subscribed in connection with his professional activities.(Lachman,1984:7)

Science is a process of fabricating a web of interconnected concepts and conceptual schemes arising from experiments and observations and fruitful of further experiments and observations. (Conant, 1984:7)

Science is all knowledge collected by means of the scientific method.(Kemeny, 1984:7)

Science comprises, first the orderly and systematic comprehension, description, and/or explanation of natural phenomena and second, the tools necessary for that understanding.

According to Dampier (1989:1) science is defined as ordered knowledge of natural phenomena and the rational study of the relations between the concepts in which these phenomena are expressed.

The same explanation is given by Joseph Abruscato (1982:6) who states

Science is the name we give to a group of processes through which we can systematically gather information about the natural world. Science is also the knowledge gathered through the use of such processes and science is characterized by those values and attitudes possessed by people who use scientific processes to gather knowledge.

Trojczak (1979:4) defines science in two parts. They are science as product and as process. As product, science is an organized, systematized body of verified knowledge about the natural world. It is the record of what has been discovered about order in the universe, the relationship of matter and energy, the interdependence among organisms, and the interactions of organisms with environmental conditions. It is the study of causes and effects, beginning with

observations and leading to generalizations, the theories, and laws. As process, science is exploring, searching and discovering knowledge - the vast variety of thought process for acquiring knowledge, beginning with observing and culminating in experimenting. It includes the continuous process of verification whereby new findings become the bases for additional predictions.

Mastery is in act, found when something impersonal is involved (Webster, 1994:626). According to Hornby (1987:523) mastery is complete control of knowledge. Fries (1973:20) stated that mastery of language is meant as the ability to use or to understand all the words of the language, but when we read a newspaper or a magazine we often find words we do not know. Furthermore, he also said that vocabulary mastery of a foreign language is also bound by our actual experience. It takes time to learn them and there is no short cut to attain mastery of the complete vocabulary of a foreign language. However, we can learn few hundreds lexical items that are most useful in situations and really master them first. So one can really master a limited number of very useful vocabulary items in a short time.

In essence, scientific vocabulary mastery is people ability to use or to understand scientific words of a language that they have learned, read and heard in certain situations in which they really have experienced in their life.

## **2.5 Scientific Essay**

What are the things you can do in your teaching scientific essays that will enhance your students' reading abilities, and at the same time enriching your students' vocabulary? When the teacher helps the students develop scientific process, she is

also helping them develop reading scientific processes and when she teaches reading scientific material automatically the students learn new words.

Carin and Sund (1989:210) explain that the effects of reading scientific essays regularly to the students show significant increases in quantity of vocabulary growth, knowledge of words meanings, visual decoding, motor decoding, and reading comprehension achievement.

The same theory of this correlation is stated by David Cornelius as cited by Carin and Sund (1989:210).

“I think that the best solution to the problem of teaching the students to comprehend written scientific materials is the technique that is frequently used to teach reading in the first place.... namely, we must read aloud to our students.... no more than three to five minutes once a day.... might be done while introducing a new topic, summarizing a particular unit,.... etc. From the explanation above, we have to know clear definition of scientific essay.

An essay is defined as an object, phenomenon or idea. Normally, definition essays may represent a combination of writing styles and features from different types of essays utilized to disclose all peculiarities of a multifold object. A definition essay should give to the reader a deeper insight into the essence of an object, as dictionaries frequently give limited formal definitions that do not reflect many significant peculiarities of the defined object. Essay should demonstrate an absolute understanding of the defined subject, along with the ability to convey this understanding to a reader. [http:// www.customessay.org/2definition-essay.htm](http://www.customessay.org/2definition-essay.htm)

An essay means 1. a) a short literary composition on a single subject, usually presenting the personal view of the author, b) something resembling such a composition. 2) A testing or trial of the value or nature of a thing: 3) An initial attempt or endeavor, especially a tentative attempt.  
<http://www.thefreedictionary.com/essayed>

Meanwhile science is defined as the observation, experimental study, description and scholarly explanation of certain issues, event or phenomenon. On the other hand, science is viewed as methodological activity, which refers to the certain area of knowledge: biology, technology, astronomy, psychology, physics and so forth. <http://www.customessay.org/topics/science-definition.php>. Scientific relates to the practice of science or it conforms with the principles or methods used in science. From above explanation Charles Kingsley defines scientific essay as a simply essay knowledge; that is, of course, a right essay knowledge. Knowledge in a certain area such as technology, biology, psychology, agriculture, health and medicine and knowledge of any natural object, its classification, its causes, its effects or in plain English, what it is, how it come, where it is and what can be done with it. <http://www.customessay.org/2definition-essay.htm>

The example title of scientific essays are

Title : Alternative Medicine, Category : Medicine by Schhmutz on April 14,2006.

<http://www.comessay/science/medicine/alternativemedicine.php.htm>

Title : andromeda Galaxy, Category : Astronomy by CheatHouse.com on January 02, 2004. <http://www.comessay/science/astronomy/andromedagalaxy.php.htm>

Title : Advance Technology, Category : Technology by CheatHouse.com on August 25, 2005

<http://www.comessay/science/technology/advancedtechnology.php.htm>

Title : Water Testing, Category : Biology by CheatHouse.com on May 01, 2003.

<http://www.comessay/science/biology/watertesting.php.htm>

## 2.6 The Related Studies.

There are many studies that relate to this research: The Correlation between students' Interest in Reading Scientific Essays, Scientific Vocabulary Mastery and Their Achievement in Reading Comprehension.

1. Al-Nujaidi, A.H. (2003). The relationship between vocabulary size, reading strategies, and reading comprehension of EFL learners in Saudi Arabia. Unpublished dissertation. UMI AAT 3094023.
2. Garland, Phil. (2006-2007). A Three Year Continuous School Improvement and Achievement Plan. Webster High School, Tuisa Public Schools.
3. Oneida J.(2002-2003) Success in reading comprehension and vocabulary mastery with interest in reading. Unpublished papers. Oneida Middle School.

The three writers above claims that high interest in a subject tended to be associated with high ability in that subject, and low interest with low ability. The reason for failure in reading is some lack of interest in reading but it does not mean that only interest causes failure in reading. They also have similar opinion that even though interest may be doubted to have contribution to one's ability to do something, the existing interest may be used as an indicator of one's

achievement and as a specific form of internal motivation as well as the affective factor of achievement in reading comprehension.



## **CHAPTER III**

### **RESEARCH METHOD**

The research method used in this study is quantitative in which the data or findings are counted quantitatively and in order to get the empirical data, field research was conducted. It is called field research or field study because it was carried out at school or university to achieve educational objectives. (Suharsimi,1988)

To collect the data the writer used a questionnaire of interest, vocabulary mastery test and reading comprehension test. The subject of the research were the fourth year students of English Department of UMK (Universitas Muria Kudus). It was under an assumption that there is a correlation between interest in reading scientific essays and scientific vocabulary mastery and reading comprehension achievement of the students.

To determine whether there is a significant correlation between students' interest in reading scientific essays, scientific vocabulary mastery and reading comprehension achievement the writer used SPSS program that computes the descriptive data of the students' tests.

#### **3.1 Population**

Nunan (1992:231) defines population as all cases, situations or individuals who share one or more characteristics. The population of the research was the fourth year students of English Department of UMK in the academic year 2005/2006. The total number of the population was 160 students consisting of four classes. The members of female students were more than those of male students. That was why each class had more female than male students. Each class had almost the same members of students. 4 A had 38 students consisting of 28 girls and 10 boys. 4B had 42 students consisting of 30girls and 12 boys. 4C had 36 students consisting of 25 girls and 11 boys. 4D had 44 students consisting of 32 girls and 12 boys.

The following table shows the distribution of the population.

Table 1: Research Population

No	Group	Number of students
1.	Class IV – A	38
2.	Class IV – B	42
3.	Class IV – C	36
4.	Class IV – D	44
The total number of students		160

I conducted the research at UMK (Universitas Muria Kudus) because I used to teach there and want to give something positive to the progress of reading achievement especially the student of English Department of Universitas Muria Kudus.

I did not take the whole population as sample because of high degree of homogeneity and time limitation.

### 3.2 Sample

Sample is a subset of individuals or cases from within a population (Nunan, 1992:232). Saleh (1997:30-31) describes three kinds of sample. First of all is the ideal sample or a representative sample, where the sample of subjects accurately represents the larger population about which the researchers wish to draw conclusion. A representative sample closely matches the characteristics of the population of interest. If it does not, it is considered a biased sample.

The other kind of sample, called a random sample, is necessarily the same as a representative sample. A random sample is selected by randomization procedures, which assure that every member of population of interest has an equal chance of being selected.

In taking the sample, Mursid Saleh (2001:34) says that a researcher may take 30%-50% out of population if it consists of 101 up to 500 students. To make balance of the number of the students, I took 15 students from each class. So the sample was 60, which were selected by simple random sampling using lottery. All of them had an equal chance of being selected in the sample. The procedure was ,first, I asked the students of each class to write down their names on small pieces of paper, and then put them in boxes (there were 4 boxes available). After mixing

the papers in each box then I dropped the papers one by one until the writer got the required number.

### **3.3 The Students' Variables**

Variable is something that may vary or differ (Brown,1993:3). In order to assess the relationships between variables, they must be identified. In this study, there are three variables identified: one dependent and two independent variables.

#### **3.3.1 Independent Variable**

Independent variable is referred to as activity or characteristic that is believed to make a difference. It is the variable that will be selected, manipulated and measured by the researcher. The Independent variables investigated in this study were interest and vocabulary mastery. Students' interest was the first independent variable and was measured by questionnaire ( $X_1$ ). Vocabulary mastery was the second independent variable ( $X_2$ ). It was measured by a test and indicated by the students' score.

#### **3.3.2 Dependent Variable**

Dependent variable is the variable that a researcher observes and measures to determine the relationships with the independent variables. In this study the dependent variable investigated was reading comprehension achievement. Reading comprehension achievement was the dependent variable ( $Y$ ) and was indicated by the students' score of reading comprehension.

### **3.4 Instruments**

In a research, there are some forms of instruments, which can be used to collect data. Instrument can be a form of a questionnaire, an observation sheet, an interview, written test, etc. In this research, questionnaire and a set of tests are chosen as the instrument in collecting data.

#### **3.4.1 The Questionnaire**

A questionnaire is a number of written questions, which are used to gain information from the respondents about them and their knowledge, belief, etc (Arikunto, 1992:124). Nunan,(1992:243) also states that questionnaire items can be relatively closed or open ended. A close item is one in which the range of possible responses is determined by the researcher. An open item is one in which the subject can decide what to say and how to say it. In this study, I apply the use of closed questionnaire containing alternatives answers, with a rating scale. Questionnaire is used to measure students' interest in reading scientific essays. The time allotment for answering the questionnaire was ninety minutes including the preparation and explanation.

As its format, the instrument consists of three parts:

1. Introduction, which contains the aim of distributing the questionnaire;
2. Respondent's identity; and
3. Content, which consists of 32 statements that reflect the components of students' interest in reading scientific essays (32 items).

The questionnaire is used to measure students' interest which covers some indicators.

1. Students' liking toward reading scientific essays.
2. Students' enthusiasm toward reading scientific essays.
3. Students' preference toward reading selection.
4. Students' desire in reading scientific essays.

Table 2: Indicators of Interest

No	Indicators	Number of items
1.	Students' liking toward reading scientific essays	1,2,3,4,9,11,13,14,15,23,26
2.	Students' enthusiasm toward reading scientific essays	5,6,8,12,24,25,27,28,29,30
3.	Students' preference toward reading selection	10,16,17,18,19
4.	Students' desire in reading scientific	7,20,21,22,31,32

	essays	
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The answer in each item had to be transformed into quantitative data. The data was analyzed by using arithmetic means. Each item was followed by the scale called Likert Scale. Tuckman, (1972:179) states that a Likert Scale is a five points scale in which the interval between each point on the scale is assumed to be equal. It is actually called an equal appearing interval scale. This scale is used to register the extent of agreement or disagreement with a particular statement of an attitude, belief, or judgment. An example: 1. Strongly Agree, 2. Agree, 3. Undecided, 4. Disagree, 5 Strongly Disagree.

The respondents should choose one of the five options to show their attitude toward the item offered to them. The scoring of the questionnaire is determined by summing up the value assigned to individual response. To score the rate, each item is credited 5,4,3,2 or 1 from favorable to unfavorable answer. Conversely, the response options are credited 1,2,3,4, or 5 from unfavorable to favorable answer.

Table 3: The scoring of the questionnaires

Positive Statements	Scores	Negative Statements
Strongly Agree	5	Strongly Disagree
Agree	4	Disagree
Undecided	3	Undecided
Disagree	2	Agree
Strongly Disagree	1	Strongly Agree

To measure the reliability of the instruments of the questionnaire in this study, I applied the formula Alpha Cronbach. Before the questionnaire was used as the instrument to collect the data, it was tried out to know its validity and reliability.

### **3.4.2 Vocabulary Test**

The construction of vocabulary test was based on ESP (English For Specific Purposes). Totally, there were forty items constructed in the form of matching item. The score of each item was one, so the highest total score was forty. The time allotment of the vocabulary test was ninety minutes including the preparation and explanation of doing the test.

### **3.4.3 Reading Comprehension Test**

In general, this instrument consists of a number of short passages which were followed by a series of multiple choice comprehension questions. I tried to find some passages and construct some comprehension questions. The test materials were specifically taken from the themes and sub-themes written in TOEFL. There were forty items constructed in multiple choice questions. The score of each item was one, so highest total score was forty. The time allotment of reading test was ninety minutes including the preparation and explanation of doing the test.

### **3.5 Try Out**

After the test as research instruments had been constructed, the test were tried out to twenty students who were taken randomly from the fourth year students of English Department of UMK (Universitas Muria Kudus) in the academic year 2005/2006. Time allotment was two hundred and seventy minutes to do the tests. In fact, the tests were conducted three times. Each test was conducted in ninety minutes.

The purpose of conducting the try out was to measure the validity and reliability and also to know the item difficulty and item discrimination as well. By knowing the item difficulty and discrimination index, I determined which items could be safely used as the research instruments.

In scoring the try-out test, I determined one point for a correct answer and zero for a wrong answer. Therefore, the formula used in scoring the try out was

$S=R$  in which S refers to the raw score and R refers to the right answer. If a student, for example, answers thirty items correctly, the score is thirty.

### **3.5.1 Validity and Reliability of the Instrument.**

#### **3.5.1.1 Validity of the Instrument.**

In this study, I am concerned with three types of validity, i.e. (1) the content validity, (2) face validity and (3) construct validity.

##### **1. Content validity**

In order to fulfill the content validity, the questionnaire has been constructed in this way: The questionnaire consists of thirty five items for measuring students' interest.

##### **2. Face validity**

It is a type of validity, which has the lowest significance because it is based on the measurement of the appearance of a test. If the appearance of a test is estimated to be able to discover what is to be measured it can be said that the face validity is obtained. In order to fulfill the face validity I constructed the questionnaire according to the following bases:

- a. Letters were printed with Times New Roman Letter font 12
- b. Sentences were printed double spaces with the size of A 4 pieces of paper

##### **3. Construct validity**

It is a type of validity in which a set of a test covers a trait to what is going to be measured. To see the validity of the instruments, we should consider a certain theory and then we can conclude a practical judgment to the result of validity of the instrument in a certain condition. In sequence, if the result is suitable to what a test is going to cover, so the test can be regarded to have a good construct validity. Here I examined the validity of the instrument using the item analysis system and put them into the formula of correlation Product Moment by Pearson as follows:

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

Where,  $r_{xy}$  = Correlation coefficient

X = Scores of each item

Y = Total scores of the items

N = The total number of respondents

(Arikunto, 1992:365)

Variable that has to be correlated was the respondent's answer of each item and was correlated with the total score of all items that was obtained by every respondent. Then the  $r_{xy}$  of each item was consulted with the table -value of r product moment (Arikunto, 1992). For practical reason, I used excel for windows with all its facilities.

Before the instruments were used to collect data, they were tried out to twenty students. I chose them randomly from the fourth year students of English Department of UMK (Universitas Muria Kudus) in the academic year 2005/2006. The goal of conducting the try out was to measure the validity of the instruments. The result of the test can be seen in appendix 5 for variables  $X_1$ ,  $X_2$  and Y.

Then, I calculated r correlation value using the formula above. Then I obtained r table = 0.444; the value of r table was seen from the degree of freedom 20 and alpha 5%. An item is considered valid if the value of r obtained is higher than the value of r table and vice versa. Besides on the explanation above, I obtained the data as follows:

Table 4: The Validity of Interest in Reading Scientific Essays

Number of item	$r_{xy}$	$r_{table}$	Criteria	Number of item	$r_{xy}$	$r_{table}$	Criteria
1	0.725	0.444	Valid	19	0.588	0.444	Valid

2	0.548	0.444	Valid	20	0.520	0.444	Valid
---	-------	-------	-------	----	-------	-------	-------

Number of item	$r_{xy}$	$r_{table}$	Criteria	Number of item	$r_{xy}$	$r_{table}$	Criteria
3	0.447	0.444	Valid	21	0.490	0.444	Valid
4	0.144	0.444	Invalid	22	0.428	0.444	Invalid
5	0.543	0.444	Valid	23	0.693	0.444	Valid
6	0.560	0.444	Valid	24	0.612	0.444	Valid
7	0.616	0.444	Valid	25	-0.064	0.444	Invalid
8	-0.196	0.444	Invalid	26	0.664	0.444	Valid
9	0.458	0.444	Valid	27	0.576	0.444	Valid
10	0.614	0.444	Valid	28	0.615	0.444	Valid
11	0.572	0.444	Valid	29	0.549	0.444	Valid
12	0.522	0.444	Valid	30	0.626	0.444	Valid
13	0.658	0.444	Valid	31	-0.032	0.444	Invalid
14	-0.146	0.444	Invalid	32	0.751	0.444	Valid
15	-0.147	0.444	Invalid				
16	0.553	0.444	Valid				
17	0.495	0.444	Valid				
18	0.612	0.444	Valid				

From the result of the Excel calculation, there were 7 invalid items of the interest in reading scientific essays variable. Those items were deleted.

Table 5: The Validity of Scientific Vocabulary Mastery Test

Number of item	$r_{xy}$	$r_{table}$	criteria	Number of item	$r_{xy}$	$r_{table}$	Criteria
1	0.468	0.444	Valid	21	0.605	0.444	Valid
2	0.316	0.444	Invalid	22	-0.115	0.444	Invalid

3	0.549	0.444	Valid	23	0.646	0.444	Valid
4	0.658	0.444	Valid	24	0.640	0.444	Valid
5	0.529	0.444	Valid	25	0.450	0.444	Valid

Number of item	$r_{xy}$	$r_{table}$	Criteria	Number of item	$r_{xy}$	$r_{table}$	Criteria
6	0.718	0.444	Valid	26	-0.626	0.444	Invalid
7	0.487	0.444	Valid	27	0.597	0.444	Valid
8	0.506	0.444	Valid	28	0.534	0.444	Valid
9	0.350	0.444	Invalid	29	0.619	0.444	Valid
10	0.642	0.444	Valid	30	-0.161	0.444	Invalid
11	0.367	0.444	Invalid	31	-0.202	0.444	Invalid
12	0.238	0.444	Invalid	32	0.591	0.444	Valid
13	-0.171	0.444	Invalid	33	0.628	0.444	Valid
14	0.632	0.444	Valid	34	0.374	0.444	Invalid
15	0.050	0.444	Invalid	35	0.414	0.444	Invalid
16	0.434	0.444	Invalid	36	0.619	0.444	Valid
17	0.350	0.444	Invalid	37	0.296	0.444	Invalid
18	0.578	0.444	Valid	38	0.526	0.444	Valid
19	0.528	0.444	Valid	39	0.551	0.444	Valid
20	0.420	0.444	Invalid	40	0.659	0.444	Valid

From the result of the Excel calculation, there were 16 invalid items of the scientific vocabulary mastery variable. Those items were deleted.

Table 6: The Validity of Reading Comprehension Test

Number of item	$r_{xy}$	$r_{table}$	Criteria	Number of item	$r_{xy}$	$r_{table}$	Criteria
1	0.547	0.444	Valid	21	0.372	0.444	Invalid

2	0.611	0.444	Valid	22	0.611	0.444	Valid
3	0.534	0.444	Valid	23	0.528	0.444	Valid
4	-0.399	0.444	Invalid	24	0.657	0.444	Valid
5	0.596	0.444	Valid	25	0.623	0.444	Valid
6	0.727	0.444	Valid	26	0.520	0.444	Valid

Number of item	$r_{xy}$	$r_{table}$	Criteria	Number of item	$r_{xy}$	$r_{table}$	Criteria
7	0.567	0.444	Valid	27	0.487	0.444	Valid
8	0.633	0.444	Valid	28	0.443	0.444	Invalid
9	0.695	0.444	Valid	29	0.552	0.444	Valid
10	0.283	0.444	Invalid	30	0.749	0.444	Valid
11	0.554	0.444	Valid	31	0.494	0.444	Valid
12	0.340	0.444	Invalid	32	-0.139	0.444	Invalid
13	0.610	0.444	Valid	33	0.685	0.444	Valid
14	0.607	0.444	Valid	34	0.641	0.444	Valid
15	0.626	0.444	Valid	35	0.514	0.444	Valid
16	0.445	0.444	Valid	36	0.267	0.444	Invalid
17	0.397	0.444	Invalid	37	0.503	0.444	Valid
18	0.565	0.444	Valid	38	0.613	0.444	Valid
19	0.492	0.444	Valid	39	-0.082	0.444	Invalid
20	0.528	0.444	Valid	40	0.542	0.444	Valid

From the result of the Excel calculation, there were 9 invalid items of the reading comprehension variable. Those items were deleted.

### 3.5.1.2 Reliability of Instrument

The reliability of the instrument shows the stability of the scores obtained from the subjects when the instruments was administered. A questionnaire is reliable when approximately the same results are obtained on different occasions. To measure the reliability of the instrument used in this study, I apply Alpha Cronbach's formula as follows:

$$r_n = \left[ \frac{k}{k-1} \right] \left[ 1 - \frac{\sum \sigma_b^2}{\sigma_t^2} \right]$$

Where :  $r_{11}$  = reliabilities of instrument  
 $k$  = number of questionnaire items  
 $\sum \sigma_b^2$  = the sum of item variance  
 $\sigma_t^2$  = total of variance

(Suharsimi, 1988: 193)

As a matter of fact, I used Excel for Windows for the reliability of test, which in turn can be seen by Alpha value. The Alpha value was compared to the value of  $r$  table and the result was 0.444 (known as  $r$  table). If the Alpha value is higher than  $r$  table, we can draw a conclusion that the item is reliable and vice versa.

Meanwhile, I used Kuder Ricardson (KR-21) for the reliability of the Scientific Vocabulary Mastery and Reading Comprehension:

$$r_{11} = \left( \frac{k}{k-1} \right) \left( 1 - \frac{M(k-M)}{kVt} \right)$$

Where :  $r_{11}$  = reliabilities of instrument

$k$  = number of items

$M$  = total mean

$Vt$  = total of variance

The data were processed by using Excel for Windows about reliability of students' interest ( $X_1$ ), Scientific Vocabulary Mastery ( $X_2$ ) and Reading Comprehension ( $Y$ ) as follows :

Table 7:  
Summary of Reliability Examination of Interest, Scientific Vocabulary Mastery  
and Reading Comprehension Variables

Variable	Alpha r reliability	R <sub>table</sub>	Comments
Interest	0.877	0.444	Reliable
Scientific Vocabulary Mastery	0.851	0.444	Reliable
Reading Comprehension	0.896	0.444	Reliable

From the table above, it can be seen that Alpha r obtained for interest, scientific vocabulary mastery and reading comprehension variables are higher than r table. Thus we can say that the items are reliable.

### 3.5.1.3 The Item Difficulty

The item difficulty was obtained by calculating the number of students in upper group with correct answer plus the number of students in lower group with correct answer then divided by the number of students in two groups. The formula is:

$$IF = \frac{FH + FL}{2N}$$

Where,

IF : The facility value (Index difficulty)

FH : The number of students of upper group who answered correctly

FL : The number of students of lower group who answered correctly

N : The number of students of upper or lower group

Table 8:  
The Criteria of the Item Difficulty Level

Interval	Criteria
$0.00 < IF \leq 0.30$	Difficult
$0.30 < IF \leq 0.70$	Medium
$0.70 < IF \leq 1.00$	Easy

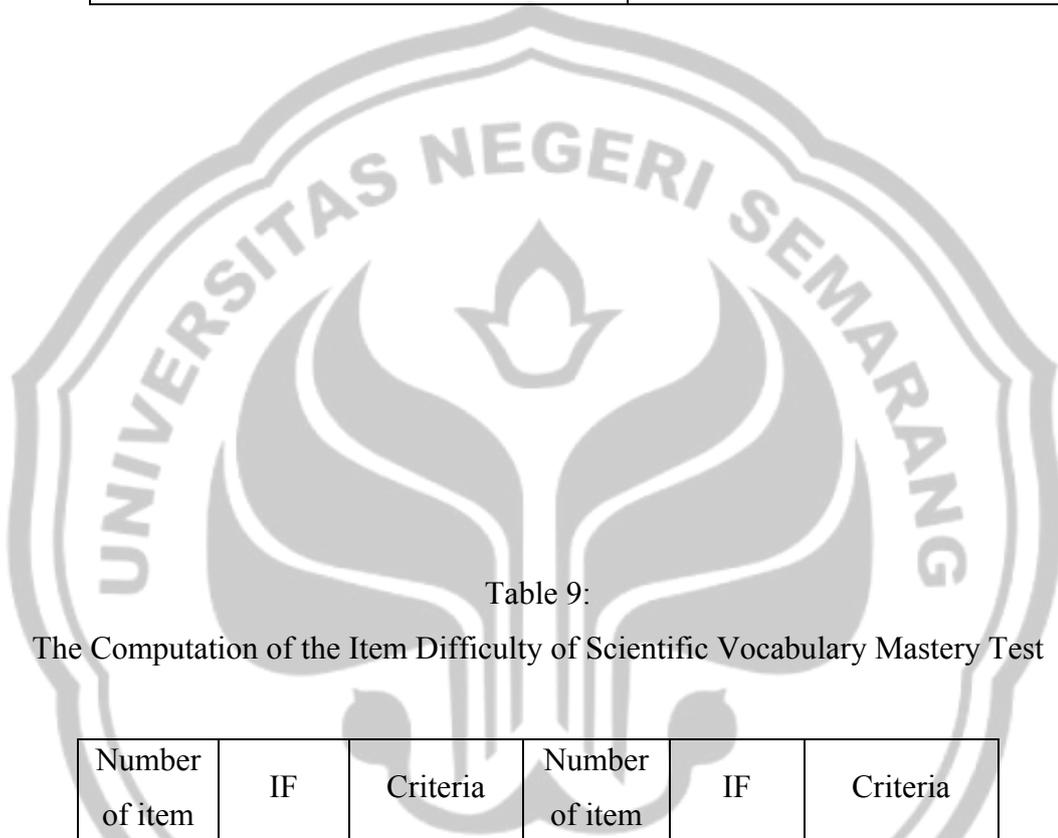


Table 9:  
The Computation of the Item Difficulty of Scientific Vocabulary Mastery Test

Number of item	IF	Criteria	Number of item	IF	Criteria
1	0.75	Easy	21	0.40	Medium
2	0.75	Easy	22	0.80	Easy
3	0.35	Medium	23	0.55	Medium
4	0.25	Difficult	24	0.70	Easy
5	0.75	Easy	25	0.90	Easy
6	0.45	Medium	26	0.50	Medium
7	0.65	Medium	27	0.65	Medium
8	0.25	Difficult	28	0.50	Medium
9	0.40	Medium	29	0.55	Medium

10	0.80	Easy	30	0.85	Easy
11	0.70	Easy	31	0.60	Medium
12	0.65	Medium	32	0.35	Medium
13	0.15	Difficult	33	0.25	Difficult
14	0.35	Medium	34	0.85	Easy
15	0.70	Easy	35	0.45	Medium
16	0.55	Medium	36	0.40	Medium
17	0.60	Medium	37	0.80	Easy
18	0.60	Medium	38	0.55	Medium
19	0.65	Medium	39	0.60	Medium
20	0.55	Medium	40	0.60	Medium

From the result of Excel calculation, there were 4 difficult items, 24 medium items, and 12 easy items.

Table 10:  
The Computation of The Item Difficulty of Reading Comprehension Test

Number of item	FI	Criteria	Number of item	FI	Criteria
1	0.25	Difficult	21	0.80	Easy
2	0.65	Medium	22	0.45	Medium
3	0.25	Difficult	23	0.75	Easy
4	0.40	Medium	24	0.45	Medium
5	0.50	Medium	25	0.85	Easy
6	0.80	Easy	26	0.45	Medium
7	0.75	Easy	27	0.70	Easy
8	0.55	Medium	28	0.80	Easy
9	0.65	Medium	29	0.65	Medium
10	0.60	Medium	30	0.40	Medium

11	0.75	Easy	31	0.40	Medium
12	0.95	Easy	32	0.80	Easy
13	0.40	Medium	33	0.75	Easy
14	0.60	Medium	34	0.30	Medium
15	0.25	Difficult	35	0.80	Easy
16	0.65	Medium	36	0.90	Easy
17	0.65	Medium	37	0.60	Medium
18	0.20	Difficult	38	0.25	Difficult
19	0.65	Medium	39	0.25	Difficult
20	0.65	Medium	40	0.55	Medium

From the result of Excel calculation, there were 6 difficult items, 21 medium items, and 13 easy items.

#### 3.5.1.4 The Discriminating power

The discriminating power of the test item is the capacity of the test item to differentiate the upper students and the lower students. The higher discriminating power of the test item, the better the test item is. The formula is:

$$ID = \frac{FH - FL}{N}$$

Where,

ID : The Discrimination index

FH : The number of students in upper group who answered the item correctly

FL : The number of students in lower group who answered the item correctly

N : The number of students of upper or lower group

Table 11:

## The criteria of the item discrimination

Interval	Criteria
$ID \leq 0.20$	Poor
$0.20 < ID \leq 0.40$	Satisfactory
$0.40 < ID \leq 0.70$	Good
$0.70 < ID \leq 1.00$	Excellent

Table 12:

## The Computation of the Discriminating Power of Scientific Vocabulary Mastery Test

Number of item	ID	Criteria	Number of item	ID	Criteria
1	0.30	Satisfactory	21	0.40	Satisfactory
2	0.30	Satisfactory	22	0.00	Poor
3	0.30	Satisfactory	23	0.70	Good
4	0.50	Good	24	0.40	Satisfactory
5	0.30	Satisfactory	25	0.20	Poor
6	0.50	Good	26	-0.40	Poor
7	0.50	Good	27	0.50	Good
8	0.50	Good	28	0.60	Good
9	0.40	Satisfactory	29	0.30	Satisfactory

Number of item	ID	Criteria	Number of item	ID	Criteria
10	0.40	Satisfactory	30	-0.10	Poor
11	0.20	Poor	31	-0.20	Poor
12	0.10	Poor	32	0.50	Good
13	-0.30	Poor	33	0.50	Good

14	0.30	Satisfactory	34	0.30	Satisfactory
15	0.00	Poor	35	0.30	Satisfactory
16	0.30	Satisfactory	36	0.60	Good
17	0.40	Satisfactory	37	0.20	Poor
18	0.60	Good	38	0.30	Satisfactory
19	0.30	Satisfactory	39	0.60	Good
20	0.30	Satisfactory	40	0.60	Good

From the result of Excel calculation, there were 10 poor items, 17 satisfactory items, and 13 good items.

Table 13:

The Computation of the Discriminating Power of Reading Comprehension Test

Number of item	ID	Criteria	Number of item	ID	Criteria
1	0.30	Satisfactory	21	0.20	Poor
2	0.30	Satisfactory	22	0.50	Good
3	0.30	Satisfactory	23	0.50	Good
4	0.00	Poor	24	0.70	Good
5	0.60	Good	25	0.30	Satisfactory
6	0.40	Satisfactory	26	0.50	Good
7	0.50	Good	27	0.40	Satisfactory
8	0.50	Good	28	0.40	Satisfactory
9	0.30	Satisfactory	29	0.30	Satisfactory
10	0.20	Poor	30	0.60	Good
11	0.50	Good	31	0.40	Satisfactory

Number of item	ID	Criteria	Number of item	ID	Criteria
12	0.10	Poor	32	-0.20	Poor
13	0.40	Satisfactory	33	0.30	Satisfactory

14	0.40	Satisfactory	34	0.60	Good
15	0.50	Good	35	0.40	Satisfactory
16	0.30	Satisfactory	36	0.00	Poor
17	0.10	Poor	37	0.40	Satisfactory
18	0.40	Satisfactory	38	0.30	Satisfactory
19	0.50	Good	39	0.10	Poor
20	0.50	Good	40	0.30	Satisfactory

From the result of Excel calculation, there were 8 poor items, 19 satisfactory items, and 13 good items.

### 3.6 The Procedure of Collecting Data

The Procedure of Collecting the data in this study involved several steps. The first step was constructing the questionnaire. The second step was trying out the questionnaire to examine whether or not it needed improvement. The third step was analyzing it to find out its validity and reliability, and then I distributed the copies of the questionnaire to the respondents and collected them and analyzed the result of the questionnaire test.

The next step is to get the score of students' achievement. The member of the reading comprehension items was 31 items in multiple choice form and 24 items of matching item of vocabulary mastery test. Then the set of test was tested to the respondents after being revised. Finally, I computed the data.

### 3.7. Data analysis

In collecting the data, I asked my students to respond to the questionnaire, i.e.: the questionnaire of interest and I also administered vocabulary and reading comprehension tests. The respondents were the fourth year students of English Department of UMK.

The analysis used in this study was descriptive statistical analysis. It means that the data were analyzed descriptively. Presenting table, percentage and frequency was done to support the analysis of the three variables (Moore, 1987)

Generally the data were analyzed to find the answer to the research problems, the objectives of the research were to investigate whether or not there was a significant correlation between

- a. Students' interest in reading scientific essays and their achievement in reading comprehension.
- b. Students' scientific vocabulary mastery and their achievement in reading comprehension
- c. Students' interest in reading scientific essays, scientific vocabulary mastery and their achievement in reading comprehension

After the data were obtained from the questionnaires and the tests, they were analyzed then. After getting the scores of the students' interest, vocabulary mastery, and reading comprehension achievement, I then, wanted to know whether or not the students with high interest and vocabulary mastery have good achievement in reading comprehension.

To determine whether or not there is relationship between students' interest in reading scientific essays, scientific vocabulary mastery and their achievement in reading comprehension, first, I correlated the score of the students' interest in reading scientific essays (X1) and the score of vocabulary mastery (X2) using Pearson's Product Moment Correlation analysis. While to know the relationship between students' interest (X1) and vocabulary mastery (X2) and their achievement (Y), I analyzed the relationship of the three variables in their linearity. Then I continued to process the data by using regression process using linear regression formula of correlation as follows:

$$Y = a + b_1X_1, \text{ and } Y = a + b_2 X_2$$

Where, Y= Score of criterion/ dependent variable

X= Score of predictor variable/Independent variables

b= Coefficient predictor

a= a constant

After that I investigated the relationship between variables using the Product Moment Correlation techniques. Finally, I could see the relation or contribution of independent to dependent variable (R Square). Those calculations were conducted by using SPSS Program version 12.0.



## CHAPTER IV

### FINDINGS AND DISCUSSION

This research was conducted to find out whether or not there is a significant correlation between: 1) Students' interest in reading scientific essays and their achievement in reading comprehension, 2) Scientific vocabulary mastery and students' achievement in reading comprehension, 3) Students' interest in reading scientific essays and scientific vocabulary mastery and their achievement in reading comprehension. The respondents were 60 students of the fourth year students of English Department of UMK (Universitas Muria Kudus). There were three instruments used in this research, namely a questionnaire to measure students' interest, scientific vocabulary test, and reading comprehension test. After distributing the questionnaire and carrying out the tests, the next step was scoring the result of questionnaire and the tests. The data were statistically processed to know the general descriptions of them such as the mean, standard deviation and mean of score. The next process was testing its normality to determine whether or not the data were normal.

#### 4.1 Data Description

##### 4.1.1 Students' Interest

As I stated in chapter III, the students' interest was measured by using a questionnaire with twentyfive items. Then the total score of each respondent was identified.

From the scoring of the questionnaire, the data are described as follows:

Table 14. Data Description of Students' Interest

Mean	85.0500 (25 items)
Standard Deviation	12.37469
Maximum Score	123.00

Minimum Score	63.00
Mean of Score	3.402

The value of mean above was obtained from the number of questions that were written in its side. Therefore, the mean of score can be counted by dividing the mean with the score of its item.  $\frac{\text{mean}}{\text{items}}$ . As a result, the mean for interest is 85.0500 from twenty five questions. Hence the mean of score is 3.402

The range between maximum and minimum score is 60(123-63). The average of standard deviation is 12.37469.

#### 4.1.2 Vocabulary

As I stated in chapter III, the vocabulary variable was measured by a test with twenty four items. Then the total score of each respondent was identified.

From the score of vocabulary variable, the data is described as follows:

Table 15. Data Description of Vocabulary Test

Mean	56.2167 (24 Items)
Standard Deviation	8.65945
Maximum	74.00
Minimum	39.00
Mean of Score	2.34

The value of mean above was obtained from the number of questions. Therefore, mean of score can be counted by dividing the mean with score of its item. As a result, the mean for vocabulary variable is 56.2167 from twenty four questions. The mean of score is 2.34.

Between the maximum and minimum score, there is a range of 35(74-39) and the value of the average standard deviation is 8.65945.

### 4.1.3 Reading Comprehension

As elaborated in chapter III, reading comprehension variable was measured by a test with thirty one items. Then the total score of each respondent was identified.

From the scoring of reading comprehension variable, the data is described as follows.

Table 16. Data Description of Reading Comprehension

Mean	56.75 (31 Items)
Standard Deviation	9.56446
Maximum	74.00
Minimum	35.00
Mean of Score	1.83

The value of mean above was obtained from the number of questions that were written in its side. Therefore, the mean of score can be counted by dividing the mean with the score of its item. As a result, the mean for reading comprehension variable is 56.75 from 31 questions. The mean of score is 1.83.

The range between maximum and minimum score is  $74 - 35 = 39$ . The average standard deviation is 9.56446.

## 4.2 Data Analysis

Analysis of data is used to test whether there is any correlation between the research variables.

### 4.2.1 Correlation between interest in reading scientific essays (X1) and achievement in reading comprehension (Y).

The analysis of data is used to test whether there is any correlation between the interest (X1) and reading comprehension (Y). I proposed the test of correlation as follows:

Ho: The correlation of X1 and Y is not significant.

Ha: The correlation of X1 and Y is significant.

Based on the data presented in appendix 6, the result of statistical test shows that the value of correlation coefficient  $r = 0.391$  and the significant value is  $0.001 = 0\%$  or less than  $5\%$ . It means that  $H_0$  is refused, or there is a significant correlation between students' interest in reading scientific essays (X1) and reading comprehension (Y).

It was found that there was a significant positive correlation between the students' interest in reading scientific essays and their achievement in reading comprehension. So the higher students' interest is, the better their reading comprehension will be.

#### **4.2.2 Correlation between scientific vocabulary mastery (X2) and achievement in reading comprehension (Y)**

Analysis of data is used to test whether there is any correlation between the scientific vocabulary mastery (X2) and reading comprehension (Y). In this case, I proposed the test of correlation as follows:

$H_0$ : The correlation of X2 and Y is not significant

$H_a$ : The correlation of X2 and Y is significant.

Based on the data presented in appendix 6, the result of statistical test shows that the value of correlation coefficient  $r = 0.521$  and significant value is  $0.000 = 0\%$  or less than  $5\%$ . It means that  $H_0$  is refused, or there is a significant correlation between students' scientific vocabulary mastery (X2) and reading comprehension (Y).

It was found out that there was a significant positive correlation between the students' vocabulary mastery and their achievement in reading comprehension. So the higher students' vocabulary mastery is, the better their reading comprehension will be.

#### **4.2.3 Correlation test between interest in reading scientific essays (X1) and scientific vocabulary mastery (X2) and their achievement in reading comprehension (Y)**

#### 4.2.3.1 Test of data normality

Regression analysis is used to show the correlation between interest (X1) and scientific vocabulary mastery (X2) and reading comprehension (Y). To fulfill this, firstly I measured the normality of the data. Based on the statistical theory, only the dependent variable should be tested while the independent variable is assumed as not having such a distribution function. Therefore, only Y variable (reading comprehension) is considered to have normality test. The normality of the data was analyzed using analysis procedure developed in Kolmogorov – Smirnov Goodness of Fit Test. (Appendix 5)

Ho : Data has normal distribution

Hi : Data has abnormal distribution

The calculation output can be seen in appendix 5 and the summary of the analysis is as follows:

Table 17. Summary of Normality Test

Variable	Mean	S	K- S Z	Sig	result	
Reading Comprehension	56.75	9.56	1.329	0.058	Not significant	normal

Table 17 shows that the significant of sig is  $0.058 = 5.8\%$  and it is higher than significant level = 0.05. As a result, Ho is accepted; it means that the data are in normal distribution.

#### 4.2.3.2 Test of Correlation Linearity

The test of correlation linearity between interest (X1) and vocabulary mastery (X2) and reading comprehension (Y) was done using SPSS 12.00.

Ho : X1 and X2 are not in linear correlation to Y

Hi : X1 and X2 are in linear correlation to Y

Based on the data of variables presented in appendix 6, I analyzed them using regression analysis. The result of the analysis can be seen as follows:

Equality of regression is  $Y = 13.258 + 0.190 X1 + 0.487 X2$

From the Anova table, the value of  $F$  is 13.762 and  $\text{sig} = 0.000$ . The  $F$  value is high enough and  $\text{sig}$  value is  $0.000 = 0\%$  or lower than alpha value  $5\%$ . Thus, the null hypothesis ( $H_0$ ) is refused and ( $H_1$ ) is accepted. As a result, interest ( $X_1$ ) and vocabulary mastery ( $X_2$ ) variables have linear correlation to reading comprehension ( $Y$ ).

Based on the linear correlation, the level of the correlation can be determined. This can be seen from the result that the value of  $R$  is 0.571. It means that the correlation between interest ( $X_1$ ) and scientific vocabulary mastery ( $X_2$ ) and reading comprehension ( $Y$ ) is equal to 57.1%. Thus, it shows that there was a significant positive correlation between the students' interest in reading scientific essays and scientific vocabulary mastery and their achievement in reading comprehension. So the higher students' interest in reading scientific vocabulary mastery is, the better their reading comprehension will be.

#### **4.3. The limitations of the Study**

I realize that this thesis has many limitations.

The population of this study was limited to the fourth semester students of the English Department of UMK in the academic year 2005/2006. Therefore the results of this study are only applicable to these students. In order to gain more reliable results, future researchers will have to have a larger population and a larger sample which include not only students of one university but of several universities.

## CHAPTER V

### CONCLUSIONS AND SUGGESTIONS

#### 5.1 Conclusions

Based on the findings in the previous chapter, I can draw the following conclusions:

By using the 0.05 or 5 percent level of significance, it was found that there is a significant positive correlation between the students' interest in reading scientific essays and their achievement in reading comprehension. The value of correlation coefficient  $r$  is 0.391. It means that null hypothesis ( $H_0$ ) is rejected. Thus the working hypothesis ( $H_a$ ) that there is a significant correlation between the students' interest in reading scientific essays and their achievement in reading comprehension is accepted. In other words, the higher students' interest is in reading scientific essays, the better their reading comprehension will be.

The students' scientific vocabulary mastery has a significant correlation with reading comprehension. The value of correlation coefficient  $r$  is 0.521. It means that the students' scientific vocabulary mastery influences their achievement in reading comprehension. In other words, the higher students' scientific vocabulary mastery is, the better their reading comprehension will be.

Both the students' interest in reading scientific essays and their scientific vocabulary mastery have a significant correlation with reading comprehension. The value of correlation coefficient  $R$  is 0.571 or 57.1 percent. It means that both the students' interest in reading scientific essays and scientific vocabulary mastery influence their achievement in reading comprehension. In other words, the higher students' interest in reading scientific essays and scientific vocabulary mastery is, the better their reading comprehension will be.

#### 5.2 Suggestions

Based on the result of the studies, I would like to offer some suggestions to consider improving the students' reading comprehension. As proved in this

study, there is a correlation between students' interest in reading scientific essays and scientific vocabulary mastery and reading comprehension. It means that in improving the achievement of reading comprehension, the lecturers or English teachers should be aware of this research. Although interest in reading scientific essays is not the only way to improve the achievement of reading comprehension, it should be considered in improving the teaching of English.

As proved in this research vocabulary mastery has a correlation with reading comprehension. The lecturers of English should motivate their students to increase their vocabulary mastery as much as possible. One of them is by giving them more chances to read scientific essays. Scientific essay is not only the science of nature but also it can be the science of geology, nuclear, social, law, chemistry, psychology, etc. Therefore, the English lecturers should give many kinds of scientific essays or passages on reading class that can give them enjoyment, knowledge and arouse their curiosity. Besides, mastering scientific vocabulary is also useful for the students not only to improve their achievement in reading comprehension but also to understand the contextual daily conversation.

Finally, I would like to note that this research is only limited to a certain place and population. Therefore, I hope that there will further research which has more sample and wider area of population. I suggest that in doing the next research, the researcher should be precise and accurate in order to give more complete findings and information to the readers.

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## Appendix 1

### THE READING COMPREHENSION TEST

Read the texts carefully, and then choose the correct answer by crossing a, b, c, or d!

#### TEXT 1

A tapeworm is a parasite that lives in the intestines of humans and animals. Some tapeworms attach themselves to the intestinal wall by means of suckers in their heads. Others float freely in the intestines and absorb food through the walls of their bodies.

A tapeworm consists of numerous segments. When a new segment forms, older ones move to the back of the animal. Each segment contains hermaphroditic sexual organs (that is, organs of male and female). The uterus of each segment fills with eggs, which develop into embryos. Generally, when the egg is ready to hatch, the segment breaks off and is eliminated through the host's excretory system. These embryos continue their development only if ingested by an intermediate host.

One may be infected by tapeworms by eating undercooked beef, pork, or fish. Symptoms include irregular appetite, abdominal discomfort, anemia, weakness, and nervousness.

1. Which of the following statements can we assume from the passage is not true?
  - a. An embryo will cease to develop if not ingested by a host.
  - b. A tapeworm will continue to live even when segments break off.
  - c. The segment farthest back on the tail is the oldest.
  - d. Tapeworms always float freely in the digestive system.
2. A hermaphrodite is
  - a. a tapeworm
  - b. a segment containing an embryo
  - c. a being that contains male and female sexual organs.

- d. an animal made of segments.
3. Which of the following is probably not a symptom of tapeworm infestation?
- a. unusual eating habits
  - b. excitability
  - c. deficiency of red blood cells
  - d. euphoria
4. What would be the best title for this reading passage?
- a. Parasites
  - b. Reproduction of the tapeworm.
  - c. The Tapeworm, a Harmful Parasite
  - d. Segmented Parasites

#### TEXT 2

The food we eat seems to have profound effects on our health. Although science has made enormous steps in making food more fit to eat, it has, at the same time, made many foods unfit to eat. Some research has shown that perhaps eighty percent of all human illnesses are related to diet and forty percent of cancer is related to the diet as well, especially cancer of the colon. Different cultures are more prone to contract certain illnesses because of the food that is characteristic in these cultures. That food is related to illness is not a new discovery. In 1945, government realized that nitrates and nitrites, commonly used to preserve color in meats, and other food additives, caused cancer. Yet, these carcinogenic additives remain in our food, and it becomes more difficult all the time to know which things on the packaging labels of processed food are helpful or harmful. These additives which we eat are not all so direct. Farmers often give penicillin to beef and poultry, and because of this, penicillin has been found in the milk of treated cows. Sometimes similar drugs are administered to animals not medicinal purposes, but for financial reasons. The farmers are simply trying to fatten the animals in order to obtain a higher price on the market. Although the Food and Drugs Administration(FDA) has tried repeatedly to control these procedures, the practices continue.

5. What are nitrates used for?
  - a. They preserve flavor in package foods.
  - b. They preserve the color of meats.
  - c. They are the objects of research.
  - d. They cause the animals to become fatter.
6. What does FDA mean?
  - a. Food Direct Additives.
  - b. Final Difficult analysis.
  - c. Food and Drug administration.
  - d. Federal Dairy Additives.
7. The word carcinogenic means most nearly the same as
  - a. trouble-making
  - b. color-retaining
  - c. money-making
  - d. cancer-causing
8. Which of the following statements is not true?
  - a. Drugs are always given to animals for medical reasons.
  - b. Some of the additives in our food are added to the food itself and some are given to the living animals.
  - c. Researchers have known about the potential hazards of food additives for over thirty-five years.
  - d. Food may cause forty percent of cancer in the world.

### TEXT 3

Of the six outer planets. Mars, commonly called the Red Planet, is the closest to Earth. Mars, 4,200 miles in diameter and 55% of the size of Earth, is 34,600,000 miles from Earth, and 141,000,000 miles from the sun. It takes this planet, along with its two moons, Phobos and Deimos, 1.88 years to circle the sun, compared to 365 days for the Earth.

For many years, Mars had been thought of as the planet with the man-made canals, supposedly discovered by an Italian astronomer, Schiaparelli, in 1877. With the United States spacecraft Viking 1's landing on Mars in 1976, the man-made canal theory was proven to be only a myth.

Viking 1, after landing on the soil of Mars, performed many scientific experiments and took numerous pictures. The pictures showed that the red color of the planet is due to the reddish, rocky Martian soil. No biological life was found, though it had been speculated by many scientists. The Viking also monitored many weather changes including violent dust storms. Some water vapor, polar ice and permafrost (frost below the surface) were found, indicating that at one time there were significant quantities of water on this distant planet. Evidence collected by the spacecraft shows some present volcanic action, though the volcanoes are believed to be dormant, if not extinct.

9. Man-made canals were supposedly discovered by
  - a. Viking I
  - b. Schiaparelli
  - c. Phobos
  - d. Martian
10. The Viking I's exploration accomplished all of the following except
  - a. performing scientific experiments
  - b. collecting information showing volcanic action
  - c. monitoring weather conditions
  - d. discovering large quantities of polar ice and permafrost.

#### TEXT 4

Gelatin is a protein substance that comes from the skins and bones of animals. Most people know it as the substance used to make a jellylike salad or dessert. Not only is it useful in making these foods, but it is also beneficial to the consumer because of its high protein content. Gelatin is also commonly used in photographic industry and in making medicinal capsules.

The process for producing gelatin is a long and complex one. In the processing of gelatin made from bones, which varies slightly from that of gelatin made from skin, the grease first must be eliminated. Then, the bones are soaked in a solution of hydrochloric acid in order to rid them of minerals and are washed several times in water. Next, the bones are placed in distilled water, and then heated to over 90 F for a few hours, placed in fresh distilled water, and then heated again at a little over 100 F. A fluid forms from this heating, and it is concentrated, chilled, and sliced. Finally, it is dried and ground. In its final form, gelatin is white, tasteless, and odorless.

11. What can we assume from this reading passage?
- One could easily make gelatin at home.
  - It is necessary to add minerals to the gelatin.
  - Fat aids in making good gelatin.
  - Gelatin is useful for elderly and ill people because it is easy to chew and high in protein.
12. Which of the following is true?
- Gelatin made from skin is produced in the same way as that made from bones.
  - Grease probably does not aid in producing gelatin.
  - The chemical used in making gelatin comes off the surface of the bones by rinsing with water.
  - When the gelatin is dried, it is in powder form.
13. Which of the following would be the best title for this passage?
- The process of making gelatin.
  - Protein Foods.
  - Uses for Bones.
  - A great dessert.

#### TEXT 5

*Vibrio Parahaemolyticus* is a bacteria that has been isolated from sea water, shell fish, finfish, plankton and salt springs. It has been a major cause of food poisoning in Japan and the Japanese have done several studies on it. They

have confirmed the presence of *Vibrio Parahaemolyticus* in the north and central pacific with the highest abundance in inshore waters, particularly in or near large harbors.

A man named Nishio studied the relationship between the chloride content of sea water and the seasonal distribution of *V. Parahaemolyticus* and concluded that while the isolation of *V. Parahaemolyticus* was independent of the sodium chloride content, the distribution of *V. Parahaemolyticus* in sea water was dependent on the water temperature. In fact it has been isolated in high frequencies during summer, from June to September, but was not isolated with the same frequency in winter.

Within four or five days after eating contaminated foods, a person will begin to experience diarrhea, the most common symptom; this will very often be accompanied by stomach cramps, nausea, and vomiting. Headache and fever, with or without chills, may also be experienced.

14. Which of the following location would be most likely to have a high concentration of *Vibrio Parahaemolyticus*?

- a. a bay
- b. a sea
- c. the middle of the ocean
- d. sediment

15. The safest time for eating sea food is probably

- a. August
- b. November
- c. July
- d. September

16. The most common symptom of *V. Parahaemolyticus* is

- a. Nausea
- b. Diarrhea
- c. Vomiting
- d. Headache and fever

17. Nishio's study showed that
- the presence of *V. parahaemolyticus* was dependent on neither the salt content nor the water temperature.
  - the presence of *V. Parahaemolyticus* was dependent on only the salt content.
  - the presence of *V. Parahaemolyticus* was independent of the both the water temperature and salt content.
  - the presence of *V. Parahaemolyticus* was dependent on the water temperature.
18. The word *cramp* in the reading means most nearly
- noises
  - toxicity
  - severe pain
  - high temperature

TEXT 6

A recent investigation by scientists at the U.S. Geological Survey shows that strange animal behavior might help predict future earth- quakes. Investigators found such occurrences in a ten- kilometer radius of the epicenter of a fairly recent quake. Some birds screeched and flew about wildly; dogs yelped and ran around uncontrollably.

Scientists believe that animals can perceive these environmental changes as early as several days before the mishap.

In 1976 after observing animal behavior, the Chinese were able to predict a devastating quake. Although hundreds of thousands of people were killed, the government was able to evacuate millions of other people and thus keep the death toll at a lower level.

19. What prediction may be made by observing animal behavior?
- an impending earthquake
  - the number of people who will die
  - the ten – kilometer radius of the epicenter
  - environmental changes

20. Why can animals perceive these changes when humans cannot?
- Animals are smarter than humans.
  - Animals have certain instincts that humans don't possess
  - By running around the house, they can feel the vibrations
  - Humans don't know where to look.
21. Which of the following is not true?
- Some animals may be able to sense an approaching earthquake.
  - By observing animal behavior scientists perhaps can predict earth-quake
  - The Chinese have successfully predicted an earthquake and saved many lives.
  - All birds and dogs in a ten-kilometer radius of the epicenter went wild before the quake
22. In this passage, the word evacuate most nearly means
- remove
  - exile
  - destroy
  - emaciate

#### TEXT 7

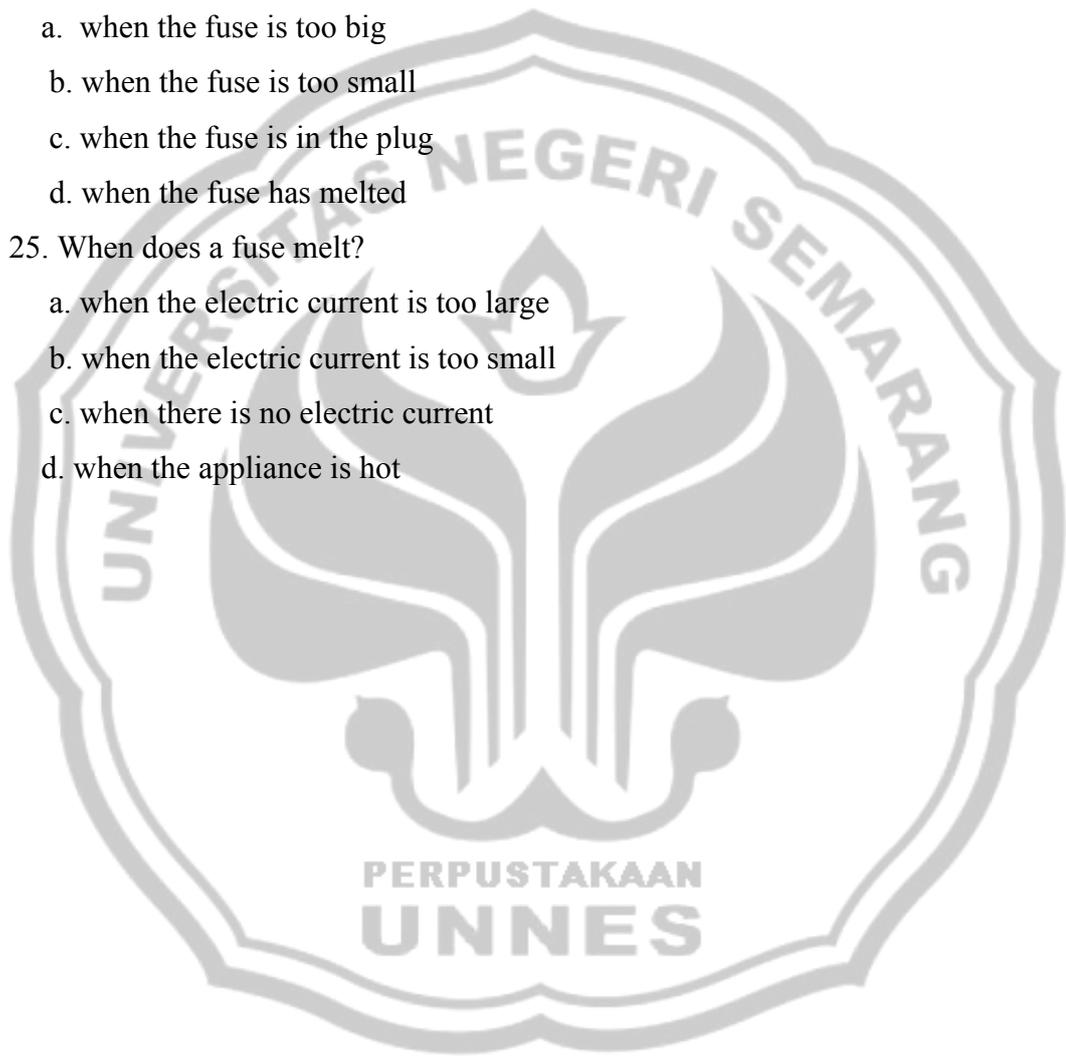
We put fuses into electric appliances safe. Radios, televisions sets, heaters, and refrigerators are all electric appliances. These appliances have fuses.

A fuse is a small piece of wire. When too much electricity tries to pass through the fuse, it melts. When it has melted no electricity can pass through it.

When there is something wrong with an electrical appliance, too much electricity may flow into it. When there is a fuse in the appliance or in the plug, the fuse will melt. The electricity will not able to cross the broken fuse wire, and the appliance will be safe.

Not all fuses are the same size. Some appliances need more electricity than others. An electric heater, for example, will usually need a current of 15 amps. Fuses must be the correct size for the appliance. When a fuse is too small, it melts too quickly. When a fuse is too large, it does not melt quickly enough. Then the appliance may get too much electricity and it is not safe.

23. Why are fuses important?
- a. They are pieces of wire.
  - b. Electricity cannot flow through them
  - c. They need a lot of electricity
  - d. They keep electrical appliances safe
24. When is an electrical appliances not safe?
- a. when the fuse is too big
  - b. when the fuse is too small
  - c. when the fuse is in the plug
  - d. when the fuse has melted
25. When does a fuse melt?
- a. when the electric current is too large
  - b. when the electric current is too small
  - c. when there is no electric current
  - d. when the appliance is hot



## TEXT 8

A camera is like a room with only one small round window. There is a dark blind over the window. Light can come into the room only when you pull the blind up. The light will spread all over the room.

Take out the flat glass from the window, and put in its place a curved lens. The lens brings the rays of light together. It focuses the light onto the wall of the room. The light does not spread all over the room.

The rays of light come from an object outside the room. These rays are reflected light. They are reflected from the object. When the lens focuses this reflected light on to the wall, we get a picture of the object. This kind of picture is called an image.

The four most important parts of a camera are the lens, the shutter, the lens opening and the film.

The lens does the work of the window in the room.

The shutter does the work of the blind.

The lens opening changes the size of the window. We can make it larger or smaller. We can let in more or less light.

The film is like the wall. The reflected light from an object passes through the lens and makes an image on the film.

26. What is a camera like?

- a. a picture
- b. a film
- c. a window
- d. a room

27. What is the shutter of a camera?

- a. an image
- b. a window light
- c. rays of light
- d. a lens

28. What is the lens of a camera like?

- a. a blind
- b. an image
- c. a window
- d. reflected light



## TEXT 9

Steel wire has thousands of uses. For example, it is used for fences, paper clips, coat hangers, safety pins, needles and nails.

Steel wire is made by pulling rods of steel through smaller and smaller holes. The steel rods are made into wire when they are cold. They are pulled through a hole in a die. There is a coating of lime on the rods. This coating of lime keeps them from sticking to the die.

The cold steel rod is wound round a spool. One end of the rod is pointed. This pointed end is threaded through a hole in a die. It is then fixed to a drum. An electric motor turns the drum, and the steel rod is pulled through the hole in the die.

The rod is pulled through a die several times. Each time it is pulled through a smaller hole. Each time it becomes longer and narrower. It becomes steel wire.

29. How are steel rods made into wire?
- They are pulled through holes of different sizes
  - They are wound round a drum
  - They are fixed to a spool
  - They are coated with lime
30. Why don't the steel rods stick to the die?
- They are pulled by an electric motor
  - They are pulled through large holes
  - They are coated with lime
  - They are pulled when they are cold
31. What happens to the rod when it is pulled through smaller and smaller holes?
- It sticks to the die
  - It becomes longer and narrow
  - It becomes pointed
  - It winds round the spool.

### THE VOCABULARY TEST

1. Fill in the blanks with the words or the correct structural forms of the words given in the list below.

Expose	adopt	prevent	antiseptic	normal
Physical	variation	emphasis	pinpoint	accurate

There are some rules about taking temperatures which, although elementary, must be observed carefully. The following is an explanation of taking temperatures. To.....1.....bacteria from getting into the body of the sick, the thermometer must be aseptic, having been washed before storage in whenever possible, an antiseptic solution. One must first make sure that the mercury column has been shaken down to below 36.5C. In the conscious adult it is not important whether the temperature is recorded in the mouth or the axilla, although temperature readings generally.....2.....0.5C higher in the mouth. In an infant or child, the method is quite different. ....3.....temperature can be taken by recording in the groin with the hip fully flexed, or in the rectum. In drowsy, stuporous, semi-comatose or comatose patients, another method is.....4..... Temperature must always be taken in the rectum, using a special thermometer which can record below 35C, or the important and serious condition of hypothermia may be missed. Besides the above the....5.... is also on timing. The thermometer must always be kept in position for one minute at very least, even if the instrument is labeled 'half minute'. The.....6....temperature is generally presumed to be 37C but may vary between 36C and 37.2C. There is normally a.....7.....in a day of about 1C, with the highest temperature in the late afternoon and the lowest in the early hours of the morning. The thermometer will help pinpoint the small difference on the chart. The temperature record is an important.....8.....sign in every patient and except in short fevers lasting only a day or two, an explanation for a raised temperature must always be sought.

2. Fill in the blanks with words or the correct structural forms of the words given below.

Stress	nutrients	morbific	attempts
Defect	inherited	persistent	disorders
Accept	complain		

The term weakness is used by patients to describe a variety of subjective complains which vary in their meaning and prognostic significance. Most of the subjective disorders included by this term will be found upon careful questioning to fall within the classifications of lassitude, fatigue and persistent weakness. Lassitude or fatigue most commonly refers to a feeling of weariness, tiredness, and weakness. Patients who complain of this symptoms have more or less characteristic way of describing it. Some assume that such a condition is.....1..... Others think it is the results of some stress. Still others believe it is due to a deficiency in nutrients. However, on close analysis their greatest defect appears to be difficulty in initiating activity, though undoubtedly there is also difficulty in keeping on certain activities in spite of the.....2.....that have been made. This condition is the familiar aftermath of prolonged labor or great physical work, and under these circumstances is.....3.....as a physiologic reaction. When, however, the same symptoms or similar ones appear in the absence of heavy exercise they are recognized as unnatural, and the patient rightly suspects some morbid elements present in his body.

3 Fill in the blanks with the words or the correct forms of the words given below

Expertise	disclose	confine	recognize
Relief	extends	essential	beneficial
Commencement	intravenous		

In 1893, the British neurologist Sir Henry Head (1861-1940) published a discovery which was to give him a lasting name in medical textbooks. His finding .....1..... a new method of therapy, although initially it aroused only little

attention. Head had noticed that patients suffering from gall bladder or renal attacks did not necessarily have pains in the diseased organs, but their pains were confined to certain and clearly definable, areas of the skin. These 'Head' zones as they have come to be....2..... in medical science have given the progressive physicians of our era with a score of new treatment possibilities, thanks to Henry Head's.....3.....At the early.....4.....of an illness, even a simple massage or diathermy on these specific skin areas has proved of surprisingly beneficial effect. Lately, the field of therapeutic anesthesia, which is very ....5..... in medical practice, has made notable use of the theory underlying Head's zone. The therapy as such is practiced in America and it ....6.....to such methods as nerve blocking by the injection of a local anesthetic for the.....7.....of somatic or visceral pains, and the very recently developed method of intravenous anesthesia with a local anesthetic for the same purpose.

4. Fill in the blanks with the words or correct structural forms of the words given in the list below.

Adequate	underprivileged	abundant	blind
Indigenous	deficient	suggest	
Carotene	expensive	encourage	

A serious form of xerophthalmia is most frequently seen in young children especially between one and five years of age. It occurs very frequently in association with protein-energy malnutrition and is closely related with poverty. The problem of xerophthalmia, or vitamin A. Deficient seems to be marked in Asia. It is the result of inadequate diet. A recent well conducted study in Indonesia...1.....that 60,000 new cases of serious xerophthalmia occur in the country each year and that 30-35 percent of the affected children go.....2.....and more than half die. Death generally occurs among the underprivileged. In Indonesia most of the vitamin A in the diet comes as carotene from vegetable sources. Dark green leafy vegetables, yellow fruits and vegetables, and red palm oil are important sources of the pro-vitamin. While these foods in Indonesia are

not.....3....., they grow easily. One good example of such food is the indigenous 'kangkung'. However, due to the eating habits of most Indonesians, a diet containing mostly rice, such food products are not .....4.....fed to young children. As a result, despite the.....5.....of carotene and the relative ease of control of xerophthalmia, the condition remains significant in the country. This is one of the reasons that the government....6.....Indonesian families through its various programs to have a 'mixed diet'.



THE QUESTIONNAIRE OF STUDENTS' INTEREST  
IN READING SCIENTIFIC ESSAYS

I. Introduction

The aim of the questionnaire is to get the data concerns with your interest in reading scientific essays. This questionnaire does not influence your mark in reading subject.

II. Respondent Identity

1. Name :
2. Class :

III. The steps in doing the questionnaire

Please read the questions briefly. Then give a sign (V) in the column of strongly Agree (SA), Agree (A), completely Agree (CA), Disagree (DA), and Strongly Disagree (SDA) which is appropriate with your answer.

IV. The item numbers

No	The Number of Question	SA	A	CA	DA	SDA
1.	I like reading scientific essays					
2.	I concentrate on reading scientific essays lesson					
3.	I usually do the home work of reading scientific essays with pleasure					
4.	I read the reading scientific essays before I go to the reading class.					
5.	If I am at home, I will review the material of reading scientific essays.					
6.	I often read scientific essays in my leisure time.					
7.	I read the scientific essays more than one title a week.					
8.	I read the scientific essays more than one hour a day.					
9.	I have more than one book of scientific essays at home					
10.	I usually look for scientific essay literature when I					

	am in the library					
11.	I like the scientific essays discussion.					
12.	I ask the lecturer if there is the difficult words in reading scientific essays.					
13.	I have an interest with the scientific essay because it can increase the knowledge of technology.					
14.	I have an interest with the scientific essay because it can increase the knowledge of medicine.					
15.	I have an interest with the scientific essay because it can increase the knowledge of astronomy.					
16.	I prefer to read the scientific essays than other kind of book.					
17.	I prefer to read the scientific essay contain of technology					
18.	I prefer to read the scientific essay contain of medicine.					
19.	I prefer to read the scientific essay contain of astronomy.					
20.	I will do the best if I get an assignment about scientific essays from the lecturer.					
21.	I will study hard if there is a reading scientific essays test.					
22.	I always find the difficult words when I am reading the scientific essays.					
23.	I often find the difficult words when I am reading the scientific essays.					
24.	I sometimes find the difficult words when I am reading the scientific essays.					
25.	I never find the difficult words when I am reading the scientific essays.					
26.	I have a specific dictionary for reading subject especially about scientific essays.					
27.	I bring a dictionary in reading class.					
28.	I consult with dictionary in order to know the meaning of the difficult words.					
29.	I like to learn scientific essays because the lecturer is good in teaching.					
30.	My vocabulary increase after reading scientific essays.					
31.	The study of scientific essays increase my knowledge of science.					
32.	I give any responses when a lecturer ask me a question of scientific essays.					
33.	When I meet a reading lecturer in the class or outside, I ask the things related with scientific					

	essays.					
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34.	I always make my mark in reading scientific essays test good.					
35.	I read the scientific essays in order to get the updated knowledge of science.					



## INDICATOR OF STUDENTS' INTEREST

No	Indicators	Number of Item
1.	Students' liking toward reading Scientific essays.	1,2,3,4,9
2.	Students' enthusiasm toward reading Scientific essays.	
3.	Students' preference toward reading selection.	
4.	Students' desire in reading Scientific essays.	

