



**THE CORRELATION BETWEEN ENGLISH LEARNING MOTIVATION
AND VOCABULARY MASTERY
AT GRADE VII SMP N 8 PADANGSIDIMPUAN**

A THESIS

*Submitted to State Institute for Islamic Studies (IAIN) Padangsidimpuan
as a Partial Fulfillment of the Requirement for Degree of Education (S.Pd.)
in English*

Written By:

DESI MAHARANI HARAHAAP
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**TARBIYAH AND TEACHER TRAINING FACULTY
STATE INSTITUTE FOR ISLAMIC STUDIES
PADANGSIDIMPUAN
2018**



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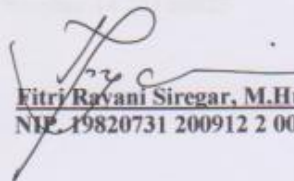
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Padangsidempuan, June 28th 2018
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ABSTRACT

This research discusses about the correlation between students' learning motivation and vocabulary mastery at grade VII SMP N 8 Padangsidempuan. There are some problems of the students in this research: 1) Students have many difficulties in learning English, because the differences between the written word and the pronouncing 2) Students are lazy to bring dictionary when process teaching and learning English 3) Students are less vocabulary 4) Students are difficult to understand new words 5) Students are not interested to English lesson, because they say English lesson is a bored lesson 6) Students don't have dream to reach 7) students will be enthusiastic if teacher explain the material with high sound. The purpose of this research is to know of how significant the correlation between English learning motivation and vocabulary mastery at grade VII SMPN 8 Padangsidempuan.

The kind of this research is quantitative research with correlation method. The population of this research is the grade VII students SMP N 8 Padangsidempuan with total 239 students from the ten classes. Then, the sample of this research is 70 students from population. The researcher used questionnaire to know the English learning motivation and test to know students' vocabulary mastery on collecting the data. The researcher used the product moment and t_{count} to analyze the data.

At the result of this research, the researcher found that mean score of English learning motivation was 52.28 and mean score of students' vocabulary mastery was 51.92. Besides, the score of r_{xy} was 0.448 and r_{table} was 0.235. So, r_{count} was higher than r_{table} ($0.448 > 0.235$). The result showed that there were a significant correlation between English learning motivation and vocabulary mastery at grade VII SMP N 8 Padangsidempuan in enough category. It meant the hypothesis (H_a) was accepted. There were a significant correlation between English learning motivation and vocabulary mastery at grade VII SMP N 8 Padangsidempuan in enough category.

Keywords: *Correlation, Learning Motivation and Vocabulary Mastery*

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ABSTRAK

Beberapa permasalahan yang diangkat dalam penelitian ini adalah 1) Siswa-siswa memiliki kesulitan dalam belajar bahasa Inggris, karena perbedaan antara tulisan dan pengucapannya 2) Siswa-siswa malas membawa kamus ketika proses mengajar dan belajar bahasa Inggris 3) Siswa sedikit kosakata 4) Siswa-siswa sulit untuk memahami kata-kata baru 5) Siswa-siswa tidak tertarik kepada pelajaran bahasa Inggris, karena mereka mengatakan bahasa Inggris adalah pelajaran yang membosankan 6) Siswa-siswa tidak mempunyai mimpi untuk dicapai 6) Siswa-siswa akan antusias jika guru menjelaskan materi dengan suara yang keras. Hal inilah yang menyebabkan peneliti tertarik untuk melakukan penelitian ini, dengan tujuan untuk mengetahui apakah motivasi belajar bahasa Inggris tersebut memiliki hubungan yang signifikan terhadap penguasaan kosakata mereka.

Jenis penelitian ini adalah penelitian kuantitatif dengan metode korelasi. Populasi penelitian adalah kelas VII SMP N 8 Padangsidempuan dengan jumlah 235 siswa dan mengambil 70 siswa sebagai sampel penelitian. Peneliti menggunakan angket untuk mengetahui tentang motivasi belajar bahasa Inggris dan tes untuk mengetahui penguasaan kosakata siswa. Peneliti menggunakan product moment dan t_{test} untuk menganalisis data.

Pada hasil penelitian ini, peneliti menemukan bahwa rata-rata skor motivasi belajar bahasa Inggris adalah 52.28 dan rata-rata skor penguasaan kosakata bahasa Inggris siswa adalah 51.92. Selain itu, skor r_{xy} adalah 0.448 dan r_{table} adalah 0.235. Jadi, r_{count} lebih tinggi daripada r_{table} ($0.448 > 0.235$). Hasil menunjukkan bahwa ada hubungan yang signifikan antara motivasi belajar bahasa Inggris dan penguasaan kosakata di kelas VII SMP N 8 Padangsidempuan. Itu berarti hipotesis diterima. Ada hubungan yang signifikan antara motivasi belajar bahasa Inggris dan penguasaan kosakata di kelas VII SMP N 8 Padangsidempuan dalam kategori cukup.

Kata Kunci: Korelasi, Motivasi Belajar dan Penguasaan Kosakata

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CHAPTER I

INTRODUCTION

A. Background of the Problem

English is one of the human languages. It is used every where because it is international language. Many countries in the world use it as first or second language. In Indonesia, English is as foreign language. In addition, English is compulsory lesson in elementary school, junior high school, senior high school, and even in university level.

In Indonesia curriculum, vocabulary also has a position as the basic for students to master English. It can be seen from English syllabus that place vocabulary in almost every subject of English material. For example, when the material is about reading, the lesson is not only about contents of the text but also about related to vocabulary. So, the reading material can not be separated from vocabulary because vocabulary is the basic material for all subjects in English lesson.

The importance of vocabulary is as an important aspect in learning foreign especially in learning English as an international language. Vocabulary has a foundation to build language, and to mastering English language; the students must know about vocabulary to make them easier to communicate each other. In addition, vocabulary mastery is the main basic for everyone to master the four skills: listening, speaking, reading, and writing.

Firstly, it is important for the students to know the vocabulary that they listen. If they do not know vocabulary impossible they can comprehend what they listen well. They will get difficulties to communicate with other people, because they do not understand and do not know to response.

Secondly, vocabulary has also important role in speaking. It is better if the students have enough knowledge about vocabulary because the students will need it for speaking. If they do not have vocabulary they will difficult to build sentences, and they could not convey what they want to say clearly. So, vocabulary has important role in listening and speaking.

The next, vocabulary is the important thing when the students read, and if they have enough vocabulary, it will help them to comprehend the text. It also will help them to make be easier to gain experience from other people and also to gain the knowledge. Without having enough vocabulary, it is impossible they can get information or knowledge. The students also will read slowly because they do not understand every word in a text.

Finally, students need many vocabularies to write their ideas, to build a good sentence, and give clear information. Students will be able to convey their ideas if they have many vocabulary. Vocabulary gives big influence for all areas of language learning.

Based on explanation above, it can be concluded that vocabulary is important in language leaning. Without good vocabulary, a learner will not master the four English skills perfectly.

In fact, mastering vocabulary in junior high school is not easy. There are many problems of students' vocabulary mastery in SMP N 8Padangsidempuan. It is based on private interview and information from a teacher. From the interview with the teacher,¹ researcher concludes that students' vocabulary mastery is low because of some problems. They are:

Firstly, English is very strange language for students. Between the written word and the pronunciation are different. Its mean students are bad in pronunciation. Secondly, most of students are lazy to bring dictionary when process learning and teaching English. Thirdly, students are less vocabulary. There are still many vocabularies that can not master by students even the vocabularies around them. Fourthly, students can not understand what the teacher said when using English. Students do not understand the meaning to what the teacher said. Itmeans students are difficult to understand new words and also students do not have enough vocabulary.

Moreover, the problems above occur because of some factors. There are some factors that influence students' vocabulary mastery, such as motivation, intelligence, and attitude, and interest, style to learn, level, and

¹Private Interview with Mrs.Masna Khairani Harahap, S. Pd, the English teacher of SMP N 8 PSP, 30th November 2017, at 10.30 a.m.

learn achievement. Motivation is important factor that must exist in learning process. Motivation is a mental encouragement as an activator to do something. By having motivation students will get more enthusiasm in doing action. The students who have low motivation will be unsuccessful in learning. Because having low motivation makes students are not interested in learning.² Motivation is divided into two parts, intrinsic motivation and extrinsic motivation. Intrinsic motivation comes from students itself. Most of students of SMP N 8 Padangsidimpuan say they do not interest about English lesson. They said English lesson is bored lesson. Also, students don't have dream to reach. It means their intrinsic motivation is low. In addition, intrinsic motivation is better for students because if the students have intrinsic motivation, they will be easier and more enthusiasm in learning. However, extrinsic motivation is caused by factors from outside or around the students. It can be from others like teachers, parents, friends, environment, etc. Most of students of SMP N 8 Padangsidimpuan also say sound of teacher is important. If teacher explain with high sound, it makes enthusiastic students.

Based on the important of motivation, the researcher is interested to examine the correlation to the students' vocabulary mastery.

²Robert E. Slavin, *Educational Psychology: Theory and Practice*, 8th Edition (New York: Pearson Education, Inc, 2006), p. 347.

B. Identification of the Problem

There are many factors which determine the English learning motivation in vocabulary mastery, the researcher found some problems. They are as follow:

1. Students have many difficulties in learning English, because the differences between the written word and the pronouncing.
2. Students are lazy to bring dictionary when process learning and teaching English.
3. Students are less vocabulary.
4. Students are difficult to understand new words.
5. Students do not interest to English lesson, because they say English lesson is bored lesson.
6. Students do not have dream to reach.
7. Students will be enthusiastic if teacher explain the material with high sound.

C. Limitation of the Problem

Based on the identification of the problem above, this research limited the problems on two problems; they are English learning motivation and students' lack of vocabulary. The vocabulary will be focused on noun especially proper noun, common noun, countable noun, and uncountable

noun about name of Indonesian food and drink, thing in the room, thing in the kitchen, fruit, animal and things.

D. Definition of Operational Variables

There are two variables in his research; English Learning Motivation as variable X and Vocabulary Mastery as variable Y.

1. English Learning Motivation

English learning motivation can be from inside and outside students to do particular action.

2. Vocabulary Mastery

Vocabulary mastery is a skill in mastering vocabulary, specifically in mastering English vocabulary to understand reading, writing, speaking, and listening.

E. Formulation of the Problem

In conducting the research, the researcher formulates the problem as follows:

1. How is the English learning motivation in learning English at grade VII students of SMP N 8 Padangsidempuan?
2. How is the students' vocabulary mastery at grade VII students of SMP N 8 Padangsidempuan?

3. Is there any significant correlation between English learning motivation and vocabulary mastery at grade VII students of SMP N 8 Padangsidempuan?

F. Purposes of the Problem

Based on above formulation of the problems, the researcher determined that the purposes of this research can be stated as follows:

1. To describe the English learning motivation in learning English at grade VII students of SMP N 8 Padangsidempuan
2. To describe the students' vocabulary mastery at grade the VII SMP N 8 Padangsidempuan.
3. To examine the significant correlation between English learning motivation and vocabulary mastery at grade VII students of SMP N 8 Padangsidempuan.

G. Significances of the Study

The result of the research is expected give more information used to:

1. For the teachers:
 - a) This research gives input to the teacher in order to teach English better
 - b) It give information about the importance of students' motivation in learning English

2. For the Headmaster

The headmaster can develop support the teacher to teach English better.

3. For the institute:

a) This research can be used as information to improve teaching and learning in the future

b) It give information to further research with certain interest

4. For other researchers

This research can give additional information for other researchers to do a further research.

H. Thesis Outline

The systematic of this research were divided into five chapters. Each chapter consisted of many sub chapters with detail as follow:

The first chapter consists of introduction; background of the problems, identification of the problems, limitation of the problems, formulation of the problems, purposes of the research, significances of the research, and thesis outline. This research is expected to be useful at least three domains, they are for the science of education, students, and for the next researchers.

The second chapter consists of theoretical descriptions; review of related findings, conceptual frame work, and hypotheses. In this research, researcher has hypotheses that the significant correlation between

English learning motivation and vocabulary mastery at grade VII SMP N 8 Padangsidempuan.

The third chapter consists of the research methodology; place and time of the research, research design, population and samples, definition of operational variables, instrument of research, validity and reliability of instrument, and techniques of analysis data.

The fourth chapter consists the result of research; description data, hypotheses of testing, discussion of result, and limitation of research.

Finally, in the fifth chapter consists of conclusion and suggestion.

CHAPTER II

THE LITERATURE REVIEW

A. Theoretical Description

1. Learning Motivation

a. Definition of Learning Motivation

Harold Spears, in Suprijono book says, “Learning is to observe, to read, to imitate, to try something themselves, to listen to follow direction”.¹ Hintzman in Muhibbin Syah book says “learning is a change in organism due to experience which can affect the organism’s behavior.”² From above definition, it can be concluded that learning is change step entire or all individual behavior which relative remain to as result of interaction and experience with environment entangling cognate process.

According to Sardiman, motivation derives from “motif” which means energy or effort that encourage someone to do something.³ In Snowman book, motivation is the willingness to expend a certain amount of effort to achieve a particular goal under a particular set of circumstances.⁴ As stated Brown on his book teaching by Principles

¹Suprijono, *Psikologi Pendidikan: Educational Psychology* (Bandung: Salemba Humanika, 2009), p.2.

²Muhibbin Syah, *Psikologi Belajar* (Jakarta: Raja Grafindo Persada, 2003), p. 65.

³Sadirman, *Interaksi & Motivasi Belajar Mengajar* (Jakarta: Raja Grafindo Persada, 2003), p. 73.

⁴Jack Snowman and Rick McCown, *Psychology Applied to Teaching 13th Edition* (Wadsworth: Cengage Learning, 2012), p. 393.

stated that motivation is the extent to which you make choices about goals to pursue and the effort you will devote the pursuit.⁵ It is mean; motivation can be interpreted as an active activator to reach a goal.

Furthermore, According to Omrod stated “motivation is something you turn (energizes), directing and maintaining behavior, motivation to make students move puts them in a certain direction, and keep them moving”. The teacher often see the students’ motivation in reflected in private investment and the involvement of cognitive, emotional and attitude in various school activities.⁶ Moreover, according to Pakdel “Motivation is an intrinsic phenomenon that is affected by four factors: situation, temperament, goal and tool”. Tools are something to reach the target. People are motivated for achieving to the goals, necessities and instincts. Academic achievement has a special importance for seekers of science and students. With this completed of a task, gaining to a goal or access to certain degree from competence in their jobs until they gain enough success in learning and academic achievement. Students’ thoughts guide their motivation.⁷

⁵H. Douglas Brown, *Teaching by Priciples an Interactive Approach to Language Pedagogy* (California: Prentice Hall, 1994), p.34.

⁶Jeane Ellis Ormrod, *Psikologi Pendidikan: Membantu Siswa Tumbuh dan Berkembang* (Jakarta: Penerbit Erlangga, 2008), p. 58

⁷B. Pakdel, *The Historical Context of Motivation and Analysis Theories Individual Motivation* (Azerbaijin: Baku State University, 2013), p. 240.

From the explanation above, it can be concluded that learning motivation is energy or effort that encourage someone to do something. So, motivation should be exist to makes students want to do something.

b. Functions of Students' Motivation in Learning

Motivation is very important for students. Motivation is an essential condition of learning. Vocabulary mastery becomes optimal if there is motivation. So motivation has three functions. There are the functions of learning motivation as follow:⁸

- 1) The people conductive to do, as activator or motor that detached energy.
- 2) Establish the purpose of deed, that is to purpose that be going to bird in hand.
- 3) Select of deed, that is establish the deeds what must worked that serration for achieve our purpose, with reject the deeds that not benefit mentioned of purpose.

Based on the above explanation, it seems that the function of students learning motivation is one of important thing in learning something, especially learning vocabulary mastery. Functions of motivation make students more active and optimal when process learning vocabulary mastery.

⁸Sardiman, *Interaksi & Motivasi ...*, p. 85.

c. Characteristics of Student Who has Learning Motivation

Interested and motivated can be as the first vision of learning progress, because by the learner or students are interested and motivated those will make the students ready and ready to receive the learning as well as possible and also give a good feedback. When it happened it means that the goals of the learning have reach and successful.

The characteristic of learning motivation for each people is different. Some people have high learning motivation, also some people not have learning motivation, and the difference characteristics students have learning motivation is:

- 1) Background knowledge level
- 2) Style to learn
- 3) Ripe level
- 4) Interest
- 5) Intelligence
- 6) Attitude
- 7) Learn achievement⁹

According to Hamzah B. Uno said that in Agus Suprijono book¹⁰, the characteristics of the students who motivated in learning as follow:

⁹Sardiman, *Interaksi & Motivasi ...*, p. 119.

- 1) There is willing and wanting of success
- 2) There is a drive and need in learning
- 3) There is appreciated in the learning
- 4) There is good learning environment that makes the students can learn well.

From explanation above, the researcher make conclusion characteristic of student who has motivation changing in person, change attitude, style learn, level, intelligence, this changing is conscious and also characteristic students is difference between one student to another student. Characteristic of students who has motivation have relation with vocabulary mastery. If students have characteristic of student who has motivation, it makes student will have positive relation to the student vocabulary mastery.

d. Types of Motivation

There are two types of motivation:

- 1) Intrinsic motivation

According to I. L Pasaribu and B. Simanjuntak in Eka's article, intrinsic motivation is defined as inner desire and internal needs.¹¹

¹⁰Agus Suprijono, *Cooperative Learning: Teori dan Aplikasi* (Yogyakarta: Pustaka Pelajar, 2012), p. 163.

¹¹Eka Sustri Harida, "An Evaluation on Students' Reading Motivation and Their Reading Comprehension of the English Department Students IAIN Padangsidempuan," (Accessed from { HYPERLINK "<https://goo.gl/d66eJq>" }, Retrieved on July, 1st 2018).

According to Santrock,¹² intrinsic motivation is motivation in learning that sources from inside of the students. Students learn because it is pushed by mental energy. Mental energy in the form of willing, study hard, desire want to success, attention, aim, makes the students think that it is importance, useful for them so they try to get it as well as possible. The students can learn efficiently if they try to learn maximally, it means students motivate themselves. Intrinsic motivation wishes to activate, to motion, to drive and to go to in the direction of attitude.

According to Dalyono, intrinsic motivation comes from the heart, usually due to awareness of the important of something alternatively due to both of talent if there is compliance white the field being studied.¹³ Such as: desire want to success, dream, interest, cognate ability, aptitude. The students have intrinsic motivation can to do something with aware. So, awareness of the important something influence intrinsic motivation.

Sadirman also say intrinsic motivation are the motives that become activated or function does not need to be stimulated from outside, because inside every individual has urge to do something

514. ¹²Jhon W. Santrock, *Psikologi Pendidikan* (Jakarta: Kencana Prenada Media Group, 2004), p.

¹³Dalyono, *Psikologi Pendidikan* (Jakarta: PT. Rineka Cipta, 2002), p. 25.

such as desire want to success, pressure and need in learning.¹⁴ Students that have motivation will have purpose become educated people, study hard, knowledge and etc. without learn does not possible can to know. So, motivation to appear from realization self with purpose essential does not by symbol.

From the statement above it is assumed that intrinsic motivation is caused by factors from inside of students. It can be from students itself such as willing, study hard, desire want to success, attention, aim, makes the students think that it is importance, interest, dream, pressure and need in learning. That factor above can influence students' intrinsic motivation in teaching and learning process. In this discussion, researcher limit be three elements as follow:

a) Desire want to success

Desire is one of element of intrinsic motivation. All of students desire want to success. In Oxford Learner's Pocket Dictionary, desire is strong wish to have or to do.¹⁵The desire to confront,

¹⁴*Ibid*, p.57

¹⁵*Oxford Learner's Pocket Dictionary, Fourth Edition* (New York: Oxford University Press, 2008), p. 121.

explore, and overcome challenges, whether intellectual or physical, is at the core of intrinsic motivation.¹⁶

b) Willing

The second element of intrinsic motivation is willing. In Oxford Learner's Pocket Dictionary,¹⁷ willing is done enthusiastically. It means, every action of students is willing from heart.

c) Interest

The last element of intrinsic motivation is interest. Students must know their interest before. Students can ask themselves with question "what are my interests, hobbies, and favorite ways to spend time?"¹⁸

Based on explanation above, intrinsic motivation is direction of the behavior of the people that comes up from the learner himself. Students that have motivation will have purpose become educated people, study hard, etc. without learn does not possible can to knowledge, encouragement that to move source at something need and need that comprise necessity become educated student and the knowledge. It means motivation appear from realization self with purpose essential.

¹⁶David A Jacobsen, *Methods for Teaching, Eighth Edition* (United States of America: Pearson, 2009), p. 14.

¹⁷*Oxford Learner's Pocket Dictionary Fourth Edition ...*, p. 509.

¹⁸David A Jacobsen, *Methods for Teaching, Eighth Edition ...*, p. 13.

2) Extrinsic motivation

Extrinsic motivation is pressure come from outside person such as: parent, teacher, friends, family, appreciation, school and society.¹⁹ According to Brophy²⁰, extrinsic motivation is a reward for learning that is not learned. Extrinsic motivation can be also doing something for something else. Extrinsic motivation is fueled by the anticipation of a reward from outside and beyond the self.²¹ Example: teacher who has pleasant personally, open attitude in teaching, give attention will make students believe and comfortable to him/her. It make they will be interested in studying well. So, it can be concluded that extrinsic motivation is one of the kind of motivation that comes from outside to do particular action.

From the statement above it is assumed that extrinsic motivation is caused by factors from outside from students. It can be from teacher, parent, and environment. Actually, that factor can influence to the students extrinsic motivation in teaching and learning process as follow:

¹⁹*Ibid*, p. 25

²⁰Robert E. Slavin, *Psikologi Pendidikan*, 9th Edition, Jilid II (Jakarta: Permata Putri Media, 2011), p. 121.

²¹John W. Santrock, *Educational Psychology ...*, p. 204.

a) Teacher

Teacher is a person who has important role in teaching and learning process to create students motivation. One of way teachers motivate students is interest teaching style, because it can make students sure that English lesson is interesting lesson. Usually, interesting lesson depend on teaching style of teacher.

However, teacher is not only a person who transfers the knowledge to students, but also as a motivator who always motivates and supports the student in teaching and learning. Teacher has responsibility to make teaching and learning process successfully.²² From explanation above, it can be summarized that teacher is important to make student motivation in learning process.

b) Parent

Parent also have important role for growing up the students motivation. Parents should have to support their son to create motivation. Jeremy harmer stated that “if the parents are very much against the culture of the language this will probably

²²*Ibid*, p. 203.

affect his or her motivation in negative way. If they are much in favor of the language this might have the opposite effect”.²³

The statement means that parents have an important role to motivate their children. Giving a support is important point to growing the students’ motivation in learning especially in learning English.

c) Environment

After teacher and parent, environment is also influence in students motivation in learning especially in learning English. Environment divided in two items. They are social environment and nonsocial environment. The most often part of environment that has big effect in influencing students motivation in peer. Peer can influence students motivation by comparing with the social competency, learning with peer the influence of peer group.²⁴ Based on explanation, environment also supports students motivation grows successfully.

If students surrounded by smart and diligent friends, it will make a good competition between them, learning together and often do discussion. But when students surrounded by lazy and naughty friends, it will be a reason why students is not

p. 4 ²³Jeremy Harmer, *The Practical of English Language Teaching* (New York: Longman, 2000),

²⁴Robert E. Slavin, *Psikologi Pendidikan*, 9th Edition ..., p. 190.

motivated to learn when teaching and learning process in the class.

2. Vocabulary Mastery

a. Definition of Vocabulary Mastery

Learning language cannot be separated from learning vocabulary. Vocabulary supports the speaker to express their opinions, ideas, and feelings in communication. To know what vocabulary is, the following are definitions about vocabulary: Oxford Advanced Learners Dictionary Online has applied a meaning of vocabulary as follow:

- 1) All the words that a person knows or uses.
- 2) All the words in a particular language.
- 3) The words that people use when they are talking about a particular subject.
- 4) A list of words with their meanings, especially in a book for learning a foreign language.²⁵

Moreover, according to David Nunan, “Vocabulary is the collection of words that an individual knows.”²⁶ Vocabulary can defined, roughly, as the words we teach in the foreign language.²⁷ It means that vocabulary is a collection of English words to learning a foreign language. As stated Herzog, Mastery is accomplishing success

²⁵A.S. Hornby, *Oxford Advanced Learner's Dictionary* (Oxford: University Press, 1974), p.6

²⁶David Nunan, *Practical English Language Teaching: Young Learners* (New York: McGraw-Hill Companies, 2005), p 121.

²⁷Penny Ur, *A Course in Language Teaching* (Cambridge: Cambridge University Press, 1991), p. 60.

in understanding or expert skill or knowledge.²⁸ So, researcher concludes that vocabulary mastery is a skill in mastering vocabulary, specifically in mastering English vocabulary to understand reading, writing, speaking, and listening.

b. The Importance of Learning Vocabulary

Vocabulary is very important in English learning. Hanson and Jennifer²⁹ say that to communicate effectively using oral and print language, learners must be able to flexibly use words that they recognize and understand. Wallace³⁰ mentions two main reasons about the importance of vocabulary.

- 1) Language exists in two forms, spoken and written, both of them need vocabulary to develop the existence itself.
- 2) Vocabulary is needed for production in learning English as a foreign language rather than only needed for recognition it.

Based on explanation above, vocabulary has important role in spoken and written form. When students learn English, it means they use vocabulary to speak and write. It means vocabulary is very important in learning English.

²⁸David Alan Herzog, *Webster's New York Essential Vocabulary* (USA: Wiley, 2005), p. 154.

²⁹Susan Hanson and Jennifer F. M. Padua, *Teaching Vocabulary Explicitly* (Hawai'i: Pacific Resources for Education and Learning, 2011), p.5.

³⁰Michael J. Wallace, *Teaching Vocabulary* (London: Biddles Ltd, 1982), p. 9

c. Types of Vocabulary

According to Thornbury in Harmer, there are two kinds of vocabulary as follows: receptive vocabulary and productive vocabulary.³¹

1) Receptive vocabulary or passive vocabulary

Receptive vocabulary is the ability to comprehend when we hear and see them which is used in listening and reading context. Someone does not need to know much about the receptive vocabulary because someone rarely use the receptive vocabulary and it is impossible for someone to memorize all the vocabularies of a certain language but someone can understand the ideas of the utterance contextually not word by word.

So, receptive vocabulary or passive vocabulary needed for listening and reading context but do not use in speaking and writing.

2) Productive vocabulary or active vocabulary

Productive vocabulary is active ability which is used in speaking or writing. It involves of knowing how to pronounce the

³¹Jeremy Harmer, *the Practical of English Language Teaching* ..., p. 158.

word, how to write and spell it, how to use it in correct grammatical patterns along with the words that usually collocate with.³² It means productive vocabulary is an active process because the learners can produce the words to express their thoughts to others.

Based on the explanation above, the researcher concluded that receptive vocabulary refers to the words we understand through reading and listening. Productive vocabulary refers to the words we use to communicate through writing and speaking. Vocabulary actually is asset of absolute way to which the language must be learned realized how important the vocabulary mastery.

d. Classification of Vocabulary

Vocabularies are classified into function and content of words. The classification of word intended into noun, verb, adjective, adverb, conjunction, pronoun, interjection, and preposition. In classification of the words are categorized as follows:³³

1. Noun

It is one of most important part of speech. It is arrangement with the verb helps to form the sentence core which is essential to

³²*Ibid*, p.159.

³³Jayanthi Dakhsina Murthy, *Contemporary English Grammar* (Delhi: Book Palace, 2003), p.

every complete sentence. It could be the name of person, place, thing or idea. Example:

- a) It is a *magazine*.
- b) There is an *umbrella*.

2. Verb

It is the word which expresses an action, condition or existence. Example:

- a) Mr. Herman *teaches* mathematic.
- b) The students *play* football.

3. Adjective

It is a word used to describe or quality nouns. Example:

- a) Mr. Herman is *clever*.
- b) This magazine is *expensive*.

4. Adverb

It is a word to modify a verb, an adjective or another adverb or word used to explain how, where, when and why an action.

Example:

- a) Mrs. Nurul is teaching in the *classroom*.
- b) I go to *campus*.

5. Conjunction

It is a word used to combine one word to another one, or one sentence to another one. Example:

- a) I called him *before* I go.
- b) Irma *and* I go to the IAIN.

6. Pronoun

It is the word which can take the place of a noun. Example:

- a) They are *my* lecture.
- b) *He* goes to office.

7. Interjection

It is a word put into a sentence to express a sudden feeling of mind or emotion. Example:

- a) Hurrah! I am the winner.
- b) Oh my god, I can't believe it's real.

8. Preposition

It is a word used to explain the relation between two grammatical words or a word used with a noun or pronoun to show their relation with some other word in the sentence is known as a preposition. Example:

- a) She is angry *with* me.
- b) I deposited my money *in* the bank.

Based on explanation above, the researcher will focus on noun.

e. Noun

Noun is the word we use to name all the things we know about, have, see, hear, taste, smell or feel.³⁴ Noun is a word used as the name of person, place, and thing, an idea or quality of mind is defined as noun.³⁵ Then, Marcella Frank says that “Noun is one of the most important parts of speech. It is arrangement with the verb help to form the sentence. In addition, it may function as or the head word in many structure.³⁶ It can be concluded that noun is one of the major form, or part of speech, it comprises words as shows similar grammatical behaviors.

1) Kinds of noun

Kinds of noun divided into four, they are:

a) Proper Noun

Proper noun is words which begin with capital letters and are not at the beginning of sentences are often the names of people, place or institution.³⁷ Proper noun also called proper names is

³⁴Jean Yates, *English Vocabulary for Beginning ESL Learners* (United States of America: the McGraw-Hill Companies, 2006), p.1.

³⁵*Ibid*,p. 6

³⁶ Marcella Frank, *Modern English* (New York: Prentice Hall, 1971), p. 47.

³⁷ Martin Parrott, *Grammar for English Language Teachers 2nd Edition* (Cambridge: Cambridge University Press, 2010), p. 9.

nouns representing unique entities. Example: London, Indonesia, China, Medan, Laura, James, etc.

b) Common Noun

Common noun is noun which states in general cognition.³⁸ In other word, common noun is names of things that we can see hear or touch.³⁹ Example: car, table, book, radio, man, woman, mountain, sea, etc

c) Collective Noun

Collective noun is words which represent group of people.⁴⁰ Clearly, collective noun is names for groups of things, animals or people, which go together, or have something in common.⁴¹ Example: people, audience, fleet, committee, crowd, etc.

d) Material Noun

Material noun is noun which states matter. In other word, material noun is essence whatever something made, such as wood, leather, etc. Examples in sentence are:

- This table is made of wood
- That temple was built of *marble*.

³⁸Imam D. Djauhari, *Mastery on English Part of Speech* (Malang: Indah, 1986), p. 15.

³⁹Barbara Dykes, *Grammar for Everyone* (Australia: Acer Press, 2007), p.22.

⁴⁰Martin Parrott, *Grammar for English Language Teachers 2nd Edition ...*, p. 14.

⁴¹Barbara Dykes, *Grammar for Everyone ...*, p.25.

2) Types of Noun

Types of noun divided into two kinds:

a) Countable noun

Countable noun is thing we can count.⁴² Countable noun has a singular and plural form. Most plural forms of countable nouns end in -s. example: boy/boys. Some plural forms are irregular, such as mouse/mice. Some countable nouns have the same form for both singular and plural, such as a sheep/nine sheep.⁴³ Another example of countable noun is umbrella, apple, radio, bus, truck, piano, cat, food, boy and girl.

b) Uncountable noun

Uncountable noun is thing we cannot count.⁴⁴ They have no plural. Uncountable noun shows a part or a quantity of something like a piece of news, a liter of milk, a bottle of water and two bars of soap⁴⁵. Another example of countable noun is sand, gold, blood, sugar, water, air, oil, tea, milk, money, etc.

3) Form of Noun

Based on the form, noun divided into classified:

⁴²Imam D. Djauhari, *Mastery on English Part of Speech ...*, p. 16

⁴³Simon Clarke, *Macmillan English Grammar* (Thailand: Macmillan Publishers, 2008), p. 142.

⁴⁴Martin Parrot, *Grammar for English Language Teachers 2nd Edition ...*, p. 10.

⁴⁵Simon Clarke, *Macmillan English Grammar ...*, p. 142.

a) Concrete noun

Concrete noun refers to physical bodies which we use at least one of our senses to observe, or concrete noun is a word whose shape can be seen physically. ⁴⁶Example: Jenahara designs a lot of *dress*

b) Abstract noun

Abstract noun is a word which cannot be seen, but can be imagined because abstract noun is concept in the mind.⁴⁷ On the other hand, abstract noun refers to abstract object that is ideas or concepts. Such as Love, Live, Hate, Health, Goodness, Freedom, Death, Darkness, Kindness, etc. example: thank you very much for your kindness.

4) Numbers of Noun

From numbers of noun, noun can be divided into two classified:

a) Singular noun

Singular noun is a noun when there is one of the person, place, or thing it names. Singular noun is a single word. Usually at the written using “a/an” if not identified, using article “the”⁴⁸ Use a if it begins with a consonant sound;

⁴⁶Adi Gunawan R, *Tangkal Bahasa Inggris SMU* (Surabaya: Kartika), p. 14.

⁴⁷*Ibid*, p. 15

⁴⁸*Ibid*, p. 22.

use an if it begins with a vowel sound.⁴⁹ Example: a car, a house, a history, an umbrella, an apple, an answer, etc.

b) Plural noun

Plural noun is more than one of the person, place or thing.⁵⁰ In other word, plural noun is a word which points objects more than one at the written word using added “s”.⁵¹

Example: cat-cats.

According to Jayanthi, noun has eight kinds:⁵²

1) Common noun

Common noun is the name given in common to every person or thing the some class or kind. Example: boy, teacher, city (Indonesia, America, Paris, etc), place, region, table etc.

2) Proper noun

Proper noun is the name some particular person or place. Example: James Watt, Airlangga, Friday, June, Sun.

3) Collective noun

Collective noun is the name of collection of thing or persons.

Example: crowd, team, family, class, committee.

⁴⁹Jean Yates, *English Vocabulary for Beginning ESL Learners ...*, p.12.

⁵⁰*Ibid*, p.15.

⁵¹*Ibid*, p. 23

⁵²Jayanthi Dakhsin Murthy, *Contemporary English Grammar ...*, p. 6.

4) Concrete noun

Concrete noun is the name of thing that can be touched or seen.

Example: girls, room, gold, cat, spoon, plate.

5) Abstract noun

Abstract noun is the name of quality, action or state. Example:

liberty, goodness, freedom, truth, life.

6) Countable noun

Countable noun is the name of noun that can be counted or divided

into singular or plural. Example: bag, pencil, table, blackboard.

7) Uncountable noun

Uncountable noun is the name of noun that cannot be counted or

divided into singular or plural. Example: rice, ink, oxygen, wool,

ice, tea

8) Material noun

Material noun is the name of material or substance out of which

things are made. Example: gold, silver, wood, milk, air, tea, butter,

water, paper.

Based on the definition above the researcher concludes that noun is one the major form or part of speech, it comprises word as shows similar grammatical behaviors. In this research, the researcher focused on proper noun, common noun, countable noun, and uncountable noun

especially name of Indonesian food and drink, thing in the room, thing in the kitchen, fruit, animal and things.

1) Proper noun

Proper noun is words which begin with capital letters and are not at the beginning of sentences are often the names of people, place or institution.⁵³ Proper noun also called proper names is nouns representing unique entities. Example of proper noun about Indonesian food is Gudeg, Fried Rice, Rendang, Pempek, KerakTelor etc.

2) Common Noun

Common noun is noun which states in general cognition.⁵⁴ In other word, common noun is names of things that we can see hear or touch⁵⁵. Example of common noun is car, knife, table, and book, radio, man, woman, mountain, sea, etc.

3) Countable noun

Countable noun is thing we can count⁵⁶. Countable noun has a singular and plural form. Most plural forms of countable nouns end in -s. example:

a) Boy/boys.

b) Brother/ brothers

⁵³Martin Parrott, *Grammar for English Language Teachers 2nd Edition* (Cambridge: Cambridge University Press, 2010), p. 9.

⁵⁴Imam D. Djauhari, *Mastery on English Part of Speech* (Malang: Indah, 1986), p. 15.

⁵⁵Barbara Dykes, *Grammar for Everyone* (Australia: Acer Press, 2007), p.22.

⁵⁶Imam D. Djauhari, *Mastery on English Part of Speech ...*, p. 16

c) Table/ tables

Some plural forms are irregular, such as:

a) Mouse/mice.

b) Child/ children

c) Woman/ women

Some countable nouns have the same form for both singular and plural, such as:

a) A sheep/nine sheep.

b) A TV/ three TV⁵⁷

4) Uncountable noun

Uncountable noun is thing we cannot count.⁵⁸ They have no plural. Uncountable noun shows a part or a quantity of something like a piece of news, a liter of milk, a bottle of water and two bars of soap⁵⁹. Another example of countable noun is sand, gold, blood, sugar, water, air, oil, tea, salt milk, money, etc.

B. Review of Related Findings

There are some of previous studies which support this research. These previous studies as follows:

⁵⁷Simon Clarke, *Macmillan English Grammar* (Thailand: Macmillan Publishers, 2008), p. 142.

⁵⁸Martin Parrot, *Grammar for English Language Teachers 2nd Edition ...*, p. 10.

⁵⁹Simon Clarke, *Macmillan English Grammar ...*, p. 142.

Firstly, Nur Fitriana has found that there was a correlation between learning motivation and vocabulary mastery and reading competence. It based on the data that show $r_{xy} = 0.735 > r_{table} = 0.206$ which means the hypothesis was accepted.⁶⁰

Secondly, Irwan Roi'yal has found that there was the correlation between students' vocabulary mastery and reading comprehension. It based on the data that show $r_{xy} = 0.641 > r_{table} = 0.361$ or 0.463 .⁶¹

Thirdly, Rina Juliana has found that there was the correlation between students' motivation and their speaking ability at grade VII MTs N 2 Padangsidempuan. It based on the data show $r_{xy} = 0.615 > r_{table} (0.615 > 0.361)$.⁶²

Fourthly, Eka Sustri Harida found that there is very weak correlation between students' reading motivation and their reading comprehension of the English department students IAIN Padangsidempuan. However, there is the significant correlation between reading motivation and students' reading

⁶⁰Frida Nur Fitriana, "A Correlation between Learning Motivation and Vocabulary Mastery and Reading Competence", in Academic Year 2011/2012, (*Published Thesis*), Surakarta: Teacher Training and Education Faculty of Sebelas Maret University, 2012, p. 54.

⁶¹Irwan Roi'yal Ali, "The Correlation between Students' Vocabulary Mastery and Reading Comprehension", in Academic Year 2010, (*Published Thesis*), Jakarta: UIN Syarif Hidayatullah 2010, p. 35.

⁶²Rita Juliana Ritonga, "The Correlation between Students' Motivation and Their Speaking Ability at Grade VII MTs N 2 Padangsidempuan, *Unpublished Thesis*, (Padangsidempuan: IAIN, 2015)

comprehension where t_{count} is higher than t_{table} taraf $\alpha = 0.05$, the significance is 0.769. It means the hypothesis is accepted.⁶³

Based on the description above it can be seen clearly that motivation have relation with all subject like vocabulary mastery, reading and speaking. The researcher hoped motivation has the high relationship to the student vocabulary mastery and could complete the previous research. So, that researcher did a research about “The Correlation between English Learning Motivation and Vocabulary Mastery at Grade VII SMP N 8 Padangsidimpuan”.

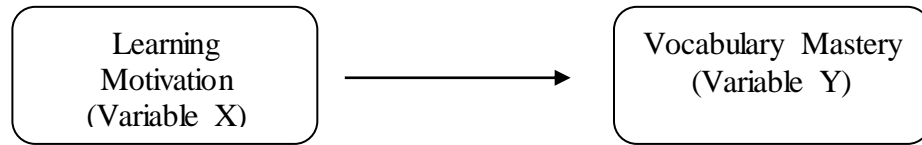
C. Framework Thinking

Vocabulary mastery is a skill in mastering vocabulary, specifically in mastering English vocabulary to understand reading, writing, speaking, and listening. Many factors can influence vocabulary weather from inside or outside of student itself.

English learning motivation is one of the vocabulary factors that come from inside and outside of students. Motivation has an important role in successfulness of students. Based on explanation above, the researcher can make one assume that students motivation really give important effect in vocabulary mastery in learning.

⁶³EkaSustriHarida, “An Evaluation on Students’ Reading Motivation and Their Reading Comprehension of the English Department Students IAIN Padangsidimpuan”, (Accessed from { HYPERLINK "<https://goo.gl/d66eJq>" } Retrieved on November, 04th 2018).

So, the researchers concluded that both of variables in this research are learning motivation as independent variables (X) and vocabulary mastery as dependent variables (Y). The relation of variables will be seen on figure below:



D. Hypothesis

Based on above explanation the researcher formulated the hypothesis as follow: “There is a significant correlation between English Learning Motivation and Vocabulary Mastery at grade VII SMP N 8 Padangsidempuan”.

CHAPTER III

THE RESEARCH METHODOLOGY

A. Place and Time of the Research

The location of the research has been conducted at SMP N 8 Padangsidempuan. It is located at Jl. Mandailing Km. 7.8, Pijorkoling, Kecamatan Padangsidempuan Tenggara.

The time of this research has been conducted from November 2017 until Mei 2018.

B. Method of the Research

The kind of this research is quantitative research with correlation method, where the data collected and done through statistical analysis. It was usually obtained from questionnaires, test, checklist, and other formal paper and pencil instruments.¹ L. R Gay said that “correlation research attempted to determine whether, and to what degree, the correlation exists between two or more variables.”² So, researcher concluded that the data collected and analyzed by used statistical analysis to get the real result.

Based on previous chapter, the researcher wants to describe a correlation between the X and Y variables, X variables is English Learning Motivation (dependent variables) and Y variables is Vocabulary Mastery (independent variables).

¹L. R Gay and Peter Airaisan, *Educational Research for Analysis and Application* (America: Prentice Hall, 1992), p. 71.

²*Ibid*, p. 96

C. Population and Sample

1. Population

The population of the research consisted of 10 classes with students.

They were from 239 students. It can be seen from the table below:

Table 1

The Population of the Seventh Grade Students

SMP N 8 Padangsidempuan

No.	Class	Total students
1.	VII- 1	24
2.	VII-2	24
3.	VII-3	23
4.	VII-4	24
5.	VII-5	23
6.	VII-6	24
7.	VII-7	23
8.	VII-8	23
9.	VII-9	25
10.	VII-10	25
Total		239

2. Sample

Sample is selected from a larger group which consists of the individuals, items or events and referred to as population.

In this research, research uses Slovin formula to take the sample:

$$n = \frac{N}{1 + Ne^2}$$

n = Sample size

N = Population

E = Significant error (5% and 10%)

Based on above formula researcher uses significant error 10% and the sample can be decided as follows:

$$n = \frac{239}{1 + 239 \cdot 0.1^2}$$

$$n = \frac{239}{3,39}$$

$$n = 70.05$$

$$n = 70$$

From the calculation above researcher used 70 students as sample and it has fulfill the criteria of sample in correlational research. In this research used simple random sampling in taking the sample. Random sampling is the process of selecting a sample in such a way that all individuals in

define population have an equal and independent chance of being selected for the sample.³

So, the researcher's reason used simple random sampling technique is because of all the sample has the same chance to be chosen. It is the best single way to obtain a representative sample.

Next, the researcher uses a lottery technique to take the sample. All the members of population were written in small paper based on member of each classroom. After that, researcher selected the members randomly from each class. The sample of this research has been seen below:

Table 2

The Sample of Research

No.	Class	Total students
1.	VII- 1	7
2.	VII-2	7
3.	VII-3	7
4.	VII-4	7
5.	VII-5	7
6.	VII-6	7
7.	VII-7	7

³*Ibid*, p. 123

8.	VII-8	7
9.	VII-9	7
10.	VII-10	7
Total		70

The way how to get the sample is:

1) Normality

Normality test is used to know whether the data normal or not. In normality, the data can be tested with Chi-quadrat:

$$x^2 = \sum \left(\frac{f_o - f_h}{f_h} \right)$$

Where:

x^2 = Chi-Quadrate

f_o = Frequency is gotten from the sample/ result of observation or questioner.

f_h = Frequency is gotten from the sample as image from frequency is hoped from population.⁴

To calculate the result of Chi-Quadrate, it is used significant level 5 % (0, 05) and degree of freedom as big as total of frequency is lessened 3

⁴Mardalis, *Metode Penelitian: Suatu Pendekatan Proposal* (Jakarta: Bumi Aksara, 2003), p. 85.

($dk = k - 1$). If result $x^2_{\text{count}} < x^2_{\text{table}}$, it can be concluded that data is distributed normal.

2) Homogeneity

Homogeneity test is used to know whether control class and experimental class have the same variant or not. If both of classes are same, it can be call homogenous. To test it, the researcher used formula as follow:

$$F = \frac{\text{the biggest variant}}{\text{the smallest variant}}$$

Hypothesis is accepted if $F_{\text{count}} \leq F_{\text{table}}$

Hypothesis is rejected if $F_{\text{count}} \geq F_{\text{table}}$

D. Instrument of Collecting Data

Instrument is very important to support every research. This research make questionnaire and test as the instrument to collect data. The instrument is chosen by researcher to collect the data in order to make research becomes systematically and easier. In this case, in order to get the data of this research, the researcher will prepare the available instrument. There are two instrument, they are questionnaire and test.

1. Questionnaire

Questionnaire is information about a particular issue of interest. The questionnaire used to get information about English learning motivation in Vocabulary Mastery. Before giving the questionnaire to the students, the

writer analyzed the validity of the questionnaire first. There are 16 questionnaires for validation and test, only each 8 items used for extrinsic motivation and intrinsic motivation. In determining students score the writer used closed questionnaire in which the respondents ticked the available responses given by the writer. The calculation of validity test can be seen in the appendix.

The type of questionnaire that used in this research was scale. It is Likert Scale. The Likert type scale response was level of frequency, in which there are five of alternative answer and score in using positive form: always= 5, often= 4, sometimes= 3, seldom= 2 and never= 1.⁵

Table 3

Indicators of English Learning Motivation (Variable X)

No.	Indicators	Sub indicators	Number	Item
1.	Intrinsic Motivation	1. Desire want to success	6	8
		2. Willing	1,7,16	
		3. Interest	2,3,14,15	
2.	Extrinsic Motivation	1. Teacher	12	8
		2. Parents	13	
		3. Environment	4,5,8,9,10,11	
Total			16	16

⁵Werge M. Vagias, *Likert- Type Scale response anchors*, (<http://www.clemson.edu/centers-institutes/tourism/documents/sample-scales.pdf>), accessed on December 18th 2017 retrieved at 22.00 p.m.

2. Test

To get the data vocabulary mastery of students, researcher used test. The test is 20 items in multiple choice forms.

Table 4

Indicators of Vocabulary Mastery

No	Indicator	Sub indicator	Number of test	Items	Score	Total score
1	Students are able to identify proper noun	name of Indonesian food	4, 19	2	5	10
2	Students are able to identify common noun	Thing in the room	1,5,6,7,8,9, 13	7	5	35
3	Students are able to identify countable noun	Thing in the room, a fruit and an animal	2,3,10,11, 12,14,15	7	5	35
4	Students are able to identify uncountable noun	Thing in the kitchen	16,17,18,20	4	5	20
Total			20	20	20	100

Scoring for multiple choice:

$$N = \frac{\text{correct answer}}{\text{Total questions}} \times 100$$

E. Validity and Reliability Instrument

1. Validity

Validity is to see the correctness an instrument to do the function to measure. Donald Ary states validity is the extent to which a test measures what it claims to measure.⁶ According to Suharsimi Arikunto Validity is a measurement that shows the valid level an instrument.⁷ In addition Anas Sudijono said that Validity is a characteristic of the good test.⁸ It means that validity is a measurement to show the characteristic of good test.

In this research, the researcher uses construct and item validity to get the validity of the instrument. Construct validity was used by judgment experts and then tested to the sample of population that was taken.⁹

So in this research, the questionnaire was validated by construct validity. It is checked by expert person.¹⁰ The expert person of questionnaire is a psychologist.

⁶Donald Ary, et. Al., *Introduction to Research in Education 8th Edition* (Canada: Wadsworth Cengage Learning, 2010),p.201.

⁷Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik* (Jakarta: Rineka Cipta, 2006), p. 168.

⁸Sugiyono, *Metode Penelitian Pendidikan* (Bandung: Alfabeta, 2013), p. 177.

⁹*Ibid*, p. 181.

¹⁰Private Meeting with Mr. GantiTuaSiregar, the Hypnotherapist, 20th January 2018, at 13.10 p.m

2. Reliability

A reliable test is consistent and dependable.¹¹ It means that reliability is very important to be conducted to know that the data that used is dependable. Reliability is also needed to create a good test because a test must be reliable as a measuring instrument. According to Arikunto, the standard of reliability of the instrument can be described as follows:¹²

- a) 0.80 – 1.0 : very high reliability
- b) 0.60 – 0.79 : high reliability
- c) 0.40 – 0.59 : medium reliability
- d) 0.20 – 0.39 : low reliability
- e) 0.0 – 0.19 : very low reliability

The reliability of the vocabulary test is measured based on Pearson Product Moment which examines the correlation of reliability between odd number and even number (reliability and half test). The formula can be seen as follows:

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

In which:

r_{xy} = coefficient of reliability between odd and even numbers items

x = odd number

¹¹H. Douglas Brown, *Language Assessment Practical and Language Practice* (San Fransisco: Longman, 2003), p. 27.

¹²Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik ...*, p. 260.

y = even number

x^2 = total score of odd number items

y^2 = total score of even number items

xy = total score of odd and even number

After the reliability of the half test has calculated, the researcher uses Spearman Brown's Prophecy formula to measure the reliability of the test as a whole as follows:

$$r_k = \frac{2r_{xy}}{1+r_{xy}}$$

Explanation:

r_k = the reliability of the whole test

r_{xy} = the reliability of half test

The criteria of reliability are:

0.90 – 1.00 = high

0.50 – 0.89 = moderate

0.00- 0.49 = low

F. Techniques of Data Analysis

In correlation research, the most suitable analysis is using the statistical process. It means that the data are collected and analyzed by using formulation. In this research data processing stage, answering the question of who has been the formulating using certain stages are:

1. Descriptive Statistic Analysis

Descriptive statistic is a static function to describe or give a picture of the object being investigated through the data sample and the population as its public.¹³ Descriptive statistic is the ways of presenting the data analyzed by the following data:

a. Mean (Average)

The formula used is:

$$M_{x=\frac{\sum fx}{N}}$$

Description:

M_x = Mean (average)

$\sum fx$ = the sum of multiplication of each score with a frequency

N = number of students¹⁴

Table 5

The Table Interpretation of Means Score

No.	Interval	Predicate
1.	80-100	Very good
2.	70-79	Good
3.	60-69	Enough
4.	50-59	Less
5.	0-49	Fail

¹³Sugiyono, *Metode Penelitian Kuantitatif dan R & D*, (Bandung: Afabeta, 2008), p. 80.

¹⁴*Ibid*, p. 81.

b. Median

The formula used is:

$$\text{Median} = l + \left(\frac{\frac{1}{2}N - fkb}{fi} \right) \times i$$

Description:

l = Lower limit of the real containing median score

fkb = Cumulative frequency lies below the median score containing

fi = original frequency (frequency of score containing median)

i = Class interval¹⁵

c. Modus

The formula used is:

$$M_0 = l + \left(\frac{fa}{fa+fb} \right) \times i$$

M_0 = mode

l = Lower limit of the interval containing the real- mode

fa = frequency located at the interval that contains the mode

fb = frequency located at below that contains the mode

i = Class interval¹⁶

¹⁵ *Ibid*, p. 82.

¹⁶ *Ibid*, p. 84.

2. To know the correlation

To know the correlation between variable X and Y was calculated by applying product moment formula. The formula of Product Moment explained below:

$$r_{xy} = \frac{n \sum xy - (\sum x)(\sum y)}{\sqrt{n\{\sum x^2 - (\sum x)^2\}\{n \sum y^2 - (\sum y)^2\}}}$$

Where:

r_{xy} = coefficient correlation between variable X and Y

$\sum X$ = The scores of variable X

$\sum Y$ = The scores of variable Y

$\sum XY$ = Product X and Y

N = Total of sample¹⁷

3. Hypothesis test

To test the hypotheses researcher used the t-test. The hypotheses was accepted if $t_{count} > t_{table}$. The formula of t-test or T_{count} as follows:

$$T_{count} = \frac{r\sqrt{n-1}}{\sqrt{1-r^2}}$$

Description:

T_{count} = result of t-test

n = the number of sample

r or r_{xy} = coefficient correlation between X and Y.¹⁸

¹⁷Supardi, et. al., *Pengantar Statistik Pendidikan*, (Jakarta: Gaung Persada Press Jakarta, 2009), p. 97.

The result should be appropriated with interpretation to the index of product moment of correlation. The interpretation of result could be seen in the following table:

Table 6

The Table Correlation of XY

Percentage	Criteria
0.00- 0.20	Very low correlation
0.20-0.40	Low correlation
0.40- 0.70	Enough correlation
0.70-0.90	High correlation
0.90- 1.00	Very high correlation

(Source: Anas Sudjiono in book *Pengantar Statistik Pendidikan*)¹⁹

¹⁸*Ibid*, p. 98.

¹⁹Anas Sudjiono, *Pengantar Statistik Pendidikan* (Jakarta: PT. Raja Grafindo, 2005), p. 193.

CHAPTER IV

THE RESULT OF RESEARCH

In this chapter, the researcher discussed the result of this research about the correlation between English learning motivation and vocabulary mastery at grade VII SMP N 8 Padangsidempuan. The researcher used the formula of product moment to analysis the data of English learning motivation and vocabulary mastery. The researcher data described as follow:

A. Description of the Data

The data described by sequence of variables, description of the research of result from variable (X) was English learning motivation, and variable (y) was vocabulary mastery. In this part, the researcher showed the result or score of both of the variable.

1. Learning Motivation

After calculating the score, it was gotten that the highest score was 57 and the lowest score was 23. To complete this research data, the researcher also calculate the mean score was 52.28, the median score was 41.18, and the mode was 36.8 (see in Appendix 7). Mean score is the score which represents the general value that was achieved by the students. Median is the middle score or score which divided a distribution of data into equal part and mode is a score which has the most frequency.

So, the score resume of variable X that was English learning motivation at grade VII SMP N8 Padangsidempuan has been gotten as table below:

Table 7
The Score Resume of English Learning Motivation

No	Statistic	Variable X
1	High Score	57
2	Low Score	23
3	Range	34
4	Interval	5
5	Mean score	52.28
6	Median score	41.18
7.	Mode	36.8

Based on the above table, it showed that mean was 52.28. It meant that the English learning motivation was in less category. To know revelation of data was done to grouped the variable score of learning motivation which the total classes 7 and interval 5.

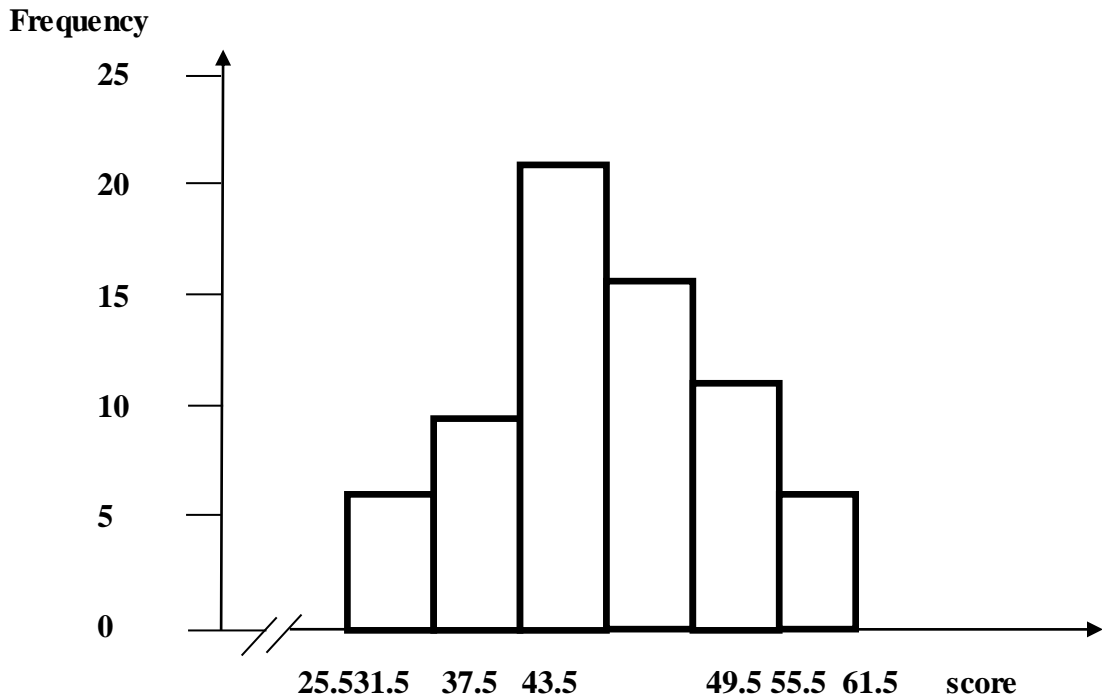
Then, the computed of the frequency distribution of the student's score of group can be applied in to table frequency distribution as follows:

Table 8
The Frequency Distribution of Learning Motivation

Interval	Mid-Point	Frequency	Percentage
23 – 28	25.5	6	8.57%
29 – 34	31.5	9	12.86 %
35 – 40	37.5	22	31.42%
41 – 46	43.5	16	22.86%
47 – 52	49.5	11	15.71%
53 – 59	55.5	6	8.58%
59 – 64	61.5	0	0%
Total		70	100 %

In order to get a description of the data clearly and completely, the researcher presents them in histogram on the following figure:

Figure 1: Description Data of English Learning Motivation



Based on the above chart, it was known that the variable revelation of English learning motivation showed that the respondent an interval 23– 28 were 6 students (8.57%), interval 29 – 34 were 9 students (12.86 %), interval 35 – 40 were 22 students (31.42 %), interval 41 – 46 were 16 students (22.86%), interval 47– 52 were 11 students (15.71%), interval 53 – 58 were 6 students (8.58%) and last interval 59 – 64 were a student (.0%).

2. Vocabulary Mastery

The score resume of variable Y that was students' vocabulary mastery at grade VII students of SMPN 8 Padangsidempuan has been gotten as table below:

Table 9
The Score Resume of Students' Vocabulary Mastery

No	Statistic	Variable Y
1.	High score	80
2.	Low score	15
3.	Range	65
4	Interval	9
5.	Mean score	51.92
6.	Median score	40.75
7.	Mode	47.35

Based on the above table, the researcher has gotten high score was 80, low score was 15 mean score 51.92, median score was 40.75, mode score was 47.35(see in Appendix 8). The calculation of mean score at students' Vocabulary Mastery was in less category. To know the revelation of data was done to group the variable score of reading comprehension which the total classes 7 and interval 9.

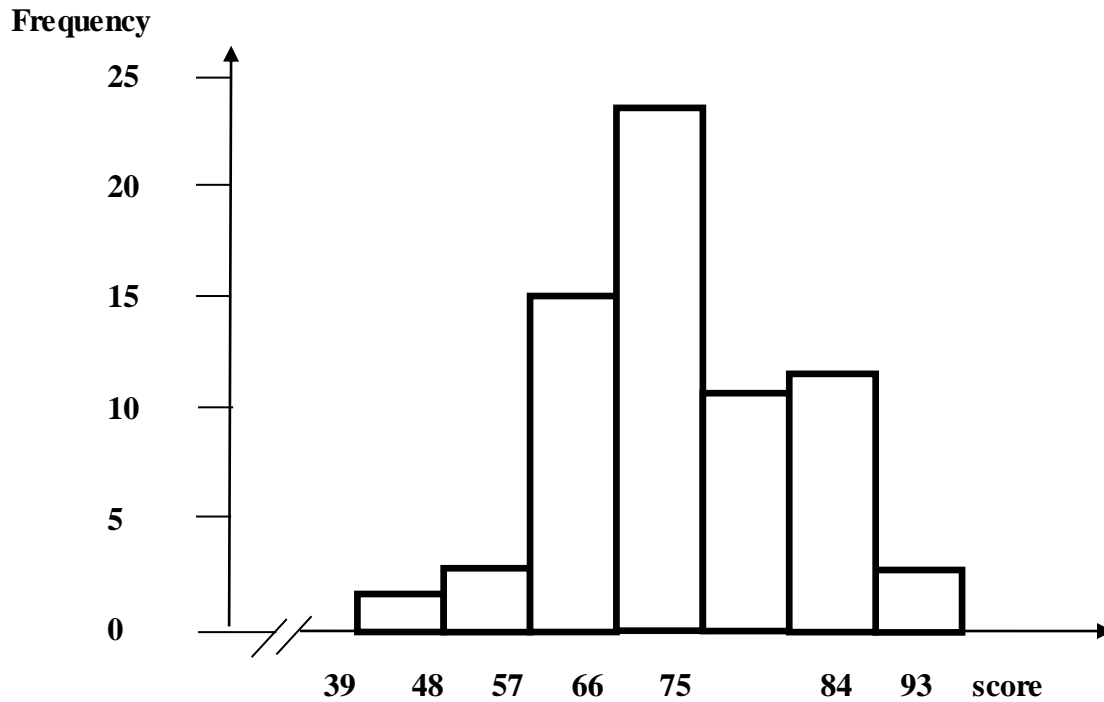
Then, the computed of the frequency distribution of the student's score of group can be applied in to table frequency distribution as follows:

Table 10
The Frequency Distribution of Students' Vocabulary Mastery

Interval	Mid-Point	Frequency	Percentages
15 – 24	19.5	2	2.86%
25 – 34	29.5	3	4.29%
35 – 44	39.5	15	21.42%
45 – 54	49.5	24	34.29%
55 – 64	59.5	11	15.71%
65 – 74	69.5	12	17.14%
75 - 84	79.5	3	4.29%
Total		70	100%

In order to get a description of the data clearly and completely, the researcher presents them in the histogram on the following figure:

Figure 2: Data Description of Students' Vocabulary Mastery



Based on the above table, it was known that the variable revelation of students' reading comprehension showed that the respondent at interval 15 – 24 were 2 students (2.86%), interval 25 – 34 were 3 students (4.29%), interval 35 – 44 were 15 students (21.42%), interval 45 –54 were 24 students (34.29%) interval 55 – 64 were 11 students (15.71%), interval 65 – 74 were 12 students (17.14%), the last interval 75 – 84 were 3 students (4.29%)

B. Analysis of the Data

1. Normality Test

After got the resume score of variable X and Y, the data was analyzed by using Chi-Square formula to know the data was normal or not. Normality test was as the requirement of test before go to the testing hypothesis.

Table 11
Normality of Data X and Data Y

Class	Normality Test	
	t _{count}	t _{table}
Data X	3.25	12.592
Data Y	4.58	12.592

Based on the table above, the score of data X = $x^2_{count} < x^2_{table}$ (3.25 < 12.592) with n = 70 and Data Y = $x^2_{count} < x^2_{table}$ (4.58 < 12.592) with n =70, and real level { EMBED Equation.3 }0.05. It meant that data X and Y were distributed normal (see in Appendix 15).

2. Hypothesis Testing

The aim of hypothesis testing was to determine the correlation between English learning motivation and vocabulary mastery at grade VII SMP N 8 Padangsidempuan by using the product moment formula. Before testing the hypothesis, first performed the calculation of the scores obtained by the respondents as the table below:

$$\begin{aligned}\sum X &= 2815 & \sum Y &= 3500 \\ \sum X^2 &= 118096 & \sum Y^2 &= 187540 \\ \sum XY &= 142230\end{aligned}$$

By using the values above, calculated the value of correlation between variable X dan Y.

$$\begin{aligned}r_{xy} &= \frac{n \sum xy - (\sum x)(\sum y)}{\sqrt{n\{\sum x^2 - (\sum x)^2\}\{n \sum y^2 - (\sum y)^2\}}} \\ &= \frac{70 (142230) - (2815)(3500)}{\sqrt{\{70 \times 118096 - (2815)^2\}\{70 \times 187540 - (3500)^2\}}} \\ &= \frac{10098330 - 9852500}{\sqrt{8266720 - 7924225 (13127800) - (12250000)}} \\ &= \frac{245830}{\sqrt{300642111000}} \\ &= \frac{245830}{548308.40865} \\ &= 0.448\end{aligned}$$

H_a: There is a significant correlation between English learning motivation and vocabulary mastery at grade VII SMPN 8 Padangsidempuan.

Based on the above calculation, the calculating product moment has gotten correlation coefficients $r_{xy} = 0.448$ was lower than $r_{table} = 0.235$ on significant level 5% and significant level 1% = 0.306. The hypothesis (H_0) was rejected namely $r_{count} > r_{table}(0.448 > 0.235)$. The result showed that there was a significant correlation between English learning motivation and vocabulary mastery at grade VII SMP N 8 Padangsidempuan in enough category. It had been written in the table of coefficient correlation interpretation.

Table 12
Categories value correlation coefficient and strength correlation

No.	Value of High r	Interpretation
1	0.90-1.00	Very Good
2	0.70-0.90	Good
3	0.40-0.70	Enough
4	0.20-0.40	Low
5	0.00-0.20	Lowest

Testing hypotheses or testing the truth of significant correlation, used the formulate t_{count} or t_{test}

$$\begin{aligned}
 T_{count} &= \frac{r\sqrt{n-1}}{\sqrt{1-r^2}} = \frac{0.448\sqrt{70-2}}{\sqrt{1-(0.448)^2}} \\
 &= \frac{0.448\sqrt{68}}{\sqrt{1-(0.20)^2}} = \frac{0.448 (8.25)}{\sqrt{1-(0.488)^2}} \\
 &= \frac{0.448 (8.246)}{\sqrt{0.9639}} = \frac{3.694}{0.981} \\
 &= 3.765
 \end{aligned}$$

Based on the calculation above, the researcher found that $t_{\text{count}} = 3.765$ and $dk = N-2 = 70-2 = 68$ and t_{table} on significant level 5 % = 2.00 and significant level 1 % = 2.65. So, $t_{\text{count}} > t_{\text{table}}$ ($3.765 < 2.65$). It meant that there was a significant correlation between two variables that it was said that the validity of the contribution of variable X to variable Y was “accepted”.

To look for the contribution of variable X to variable Y as follows:

KP = the score of determine coefficient

r = the scores of the coefficients correlation

$$KP = r^2 \times 100 \%$$

$$= (0.448)^2 \times 100\%$$

$$= 0.200704$$

$$= 20.07 \%$$

Based on calculating above, the contribution variable X (Learning Motivation) toward variable Y (Vocabulary Mastery) there was 20.07 % and 79.93% influenced by other variable.

C. Discussion

Based on the analysis of the data above, the researcher has proven that students' learning motivation has correlation to students' vocabulary mastery. It was supports stated on the theory that stated at previous chapter. Motivation is important factor that must exist in learning process. Motivation is mental encouragement as an activator to do something. By having motivation students will get more enthusiasm in doing action.

At the result of this research, the mean score of students' learning motivation was less category and the mean score of students' vocabulary mastery also was less category. So, from the result can be seen that most of students with low learning motivation also have low vocabulary mastery. It would depend on what factors that influences students vocabulary mastery. Students have low learning motivation because their intrinsic motivation and extrinsic motivation also low. Desire, willing, interest of students need to improve by themselves but teacher, parents and environment also have important role for growing up the students motivation.

Then, the researcher compared it with the result on research related findings the first, the research by Frida Nur Fitriana found the result of $r_{xy} = 0.735$.¹ Secondly, the research done by Irwan Roi'yal Ali found the result of

¹Frida Nur Fitriana, A Correlation between Learning Motivation and Vocabulary Mastery and Reading Competence", in Academic Year 2011/2012, (*Published Thesis*), Surakarta: Teacher Training and Education Faculty of Sebelas Maret University, 2012, p. 54.

$r_{xy}=0.641$.² Thirdly, the research by Rita Juliana Ritonga found the result of $r_{xy}0.615$.³ Last, the research done by Eka Sustri Harida found the result of $r_{xy}=0.048$. The research by researcher about the correlation between English learning motivation and vocabulary mastery at grade VII students SMP N 8 Padangsidempuan found the result of r_{xy} was 0.448.

Based on the explanation above, it was proved that this research have the result almost same with other research, where in this research learning motivation had enough correlation to students' vocabulary mastery. For supporting that, researcher has been done the research and it was proved by testing hypotheses of research, it found that learning motivation have the significant correlation to students' vocabulary mastery at grade VIISMP N 8Padangsidempuan. This fact can be seen from $r_{count} > r_{table}$ ($0.448 > 0.235$) and $t_{count} > t_{table}$ ($3.765 > 2.65$).

D. Limitation of the Research

The researcher limits this research, as follows:

1. The researcher gives the questionnaire and test to sample and explains them about the instruction.
2. The researcher does not know how serious and concentrate the students when they were answering the questionnaire and test.

²Irwan Roi'yal Ali, "The Correlation between Students' Vocabulary Mastery and Reading Comprehension", in Academic Year 2010, (*Published Thesis*), Jakarta: UIN Syarif Hidayatullah 2010, p. 35.

³Rita Juliana Ritonga, "The Correlation between Students' Motivation and Their Speaking Ability at Grade VII MTs N 2 Padangsidempuan, *Unpublished Thesis*, (Padangsidempuan: IAIN, 2015)

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3. The researcher does not saw the measuring honest aspects of the students in answering the questionnaire and test until possibility the students cheat or guess.

CHAPTER V

THE CONCLUSION AND SUGGESTION

A. Conclusion

After getting the result of research data, the research came to describe the data as follows:

1. The students' learning motivation at grade VII students of SMP N 8 Padangsidempuan was "less" by getting mean score was 52.28.
2. The students' vocabulary mastery at grade VII students of SMP N 8 Padangsidempuan was "less" by getting mean score was 51.92.
3. Based on the result of data analysis, there was a significant correlation between English learning motivation and vocabulary mastery at grade VII SMP N 8 Padangsidempuan in enough category. It can be gotten by using the calculating of product moment formula where coefficient correlation level $r_{xy} = 0.448$ and r_{table} on significant level 5% was 0.235. So, the significant correlation was $0.448 > 0.235$ ($r_{count} > r_{table}$). Then, on calculating the hypothesis testing has gotten $t_{count} = 3.765$ with $dk = N - 2$ ($70 - 2 = 68$) and t_{table} on significant level 5 % = 2.00. So the significant variables were $3.765 > 2.00$ ($t_{count} > t_{table}$) and the hypothesis H_a was accepted.

B. Suggestion

The researcher has some suggestions as follows:

1. The headmaster of SMP N 8 Padangsidimpuan was hoped to support the English teachers to teach well and provide facilities involves with learning English.
2. The English teacher should give a positive stimulus to increase students learning motivation.
3. Parents and environment were hoped giving regular support to the students to grow up their motivation.
3. The researcher hopes that the others researchers who want to conduct a research related to this research to find the others factor that influence of vocabulary mastery. In order to motivate readers more critics and consider whatever they read.

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B. Parents

Father's Name : Sati Alamsyah Harahap
Mother's Name : Dangsiani Siregar

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1. Elementary School : SD Negeri 200103 Padangsidimpuan (2008)
2. Junior High School : SMP Negeri 3 Padangsidimpuan (2011)
3. Senior High School : SMA N 4 Padangsidimpuan (2014)
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2. Fitri Rayani Siregar, M.Hum (Pembimbing II)

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Padangsidempuan

Assalamu'alaikum Wr. Wb

Dengan hormat, sehubungan dengan hasil sidang bersama tim pengkaji judul skripsi jurusan Tadris Bahasa Inggris (TBI) Fakultas Tarbiyah dan Ilmu Keguruan IAIN Padangsidempuan. Maka dengan ini kami mohon kepada Bapak/Ibu agar dapat menjadi pembimbing skripsi dan melakukan penyempurnaan judul bilamana perlu untuk mahasiswa dibawah ini dengan data sebagai berikut:

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Judul Skripsi : **The Correlation Between Students' Learning Motivation And Vocabulary Mastery At Grade VII SMP N 8 Padangsidempuan**

Demikian surat ini disampaikan, atas perhatian dan kesediaan Bapak/Ibu kami ucapkan terima kasih.

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Padangsidimpuan, 02 November 2018
Dekan



Dr. Lelya Hilda, M.Si.
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Hal : Izin Penelitian
Penyelesaian Skripsi.

24 Mei 2018

Yth. Kepala SMP N 8 Padangsidimpuan
Kota Padangsidimpuan

Dengan hormat, Dekan Fakultas Tarbiyah dan Ilmu Keguruan Institut Agama Islam Negeri Padangsidimpuan menerangkan bahwa :

Nama : Desi Maharani Harahap
NIM : 1420300023
Fakultas/Jurusan : Tarbiyah dan Ilmu Keguruan/TBI
Alamat : Kamp. Marancar Gg. Pedati no.20

adalah benar Mahasiswa IAIN Padangsidimpuan yang sedang menyelesaikan Skripsi dengan Judul "*The Correlation Between Students' Learning Motivation and Vocabulary Mastery at Grade VII SMP N 8 Padangsidimpuan*". Sehubungan dengan itu, kami mohon bantuan Bapak/Ibu untuk memberikan data dan informasi sesuai dengan maksud judul diatas.

Demikian disampaikan, atas kerja sama yang baik diucapkan terimakasih.



Hilda, M.Si.
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PEMERINTAH KOTA PADANGSIDIMPUAN
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Unit Kerja : SMP Negeri 8 Padangsidempuan

Menerangkan dengan sebenarnya bahwa :

Nama : **DESI MAHARANI HARAHAP**
N I M : 1420300023
Fakultas : Tarbiyah dan Ilmu Keguruan
Jurusan : TBI

Telah melaksanakan penelitian pada SMP Negeri 8 Padangsidempuan untuk menyelesaikan skripsi yang berjudul **"The Correlation between Students' Learning Motivation and Vocabulary Mastery at Grade VII SMP N 8 Padangsidempuan"**.

Demikian Surat Keterangan ini dibuat dengan sebenarnya untuk dapat dipergunakan sebagaimana perlunya.

Padangsidempuan, 28 Mei 2018

Wakil Kepala Sekolah
Wakil Kepala Bidang Kurikulum



PARADA SAKTI, S.Pd
NIP. 19710924 200502 1 001

APPENDIX I

ANGKET TENTANG HUBUNGAN MOTIVASI SISWA DALAM BELAJAR DENGAN PENGUASAAN VOCABULARY

NAMA :

KELAS/SEMESTER :

HARI/TANGGAL :

A. Pengantar

1. Angket ini diberikan kepada siswa hanya bertujuan untuk mendapatkan informasi dari siswa sesuai penelitian tentang (**The Correlation between Students' Motivation in Learning and Vocabulary Mastery at Grade IX SMP N 8 Padangsidempuan**).
2. Informasi yang diperoleh dari anda sangat berguna bagi peneliti untuk menganalisis tentang motivasi belajar siswa
3. Partecipasi anda memberikan informasi sangat kami harapkan.

B. Petunjuk pengisian

1. Baca dan pahamiilah setiap pernyataan dengan baik
2. Pertimbangkan jawaban yang paling sesuai dengan keadaan anda, dan pilihlah satu jawaban yang paling sesuai dengan keadaan anda, lalu berikan tanda "Cek" (√) pada kolom yang tersedia

Keterangan Pilihan Jawaban:

SL : Selalu

SR : Sering

KD : Kadang-kadang

JR : Jarang

TP : Tidak Pernah

No.	Pernyataan	SL	SR	KD	JR	TP
1	Jika waktu luang, saya mengulangi kembali pelajaran bahasa Inggris di rumah					
2	Saya suka mendengarkan lagu-lagu yang berbahasa Inggris					
3	Saya suka menyanyikan lagu-lagu yang berbahasa Inggris					
4	Jika belajar bahasa Inggris, waktu berlalu cepat					
5	Jika belajar bahasa Inggris, saya selalu ingin cepat pulang					
6	Saya selalu menambah pembendaharaan kosakata bahasa Inggris					
7	Jika sudah di rumah, saya rajin menghafal kosakata baru setiap minggu					
8	Saya mengajak adik saya untuk bercakap-cakap bahasa Inggris					
9	Saya suka mengajak teman saya bercakap-cakap bahasa Inggris					
10	Saat bertemu turis, saya mengajak conversation					
11	Saya senang menanggapi kalau ada yang mengajak berdialog bahasa Inggris					
12	Guru mengajar bahasa Inggris dengan suara pelan dan tidak jelas					
13	Saya suka menonton film-film berbahasa Inggris karena orangtua saya juga suka menontonnya					
14	Saya tidak tertarik belajar bahasa Inggris karena tulisan dan pengucapannya berbeda					
15	Saya tidak tertarik belajar bahasa Inggris karena pronunciation (cara pengucapannya) susah					
16	Saya mengulang pengucapan kosakata bahasa Inggris yang baru					

APPENDIX II

QUESTIONNAIRE RESULT OF LEARNING MOTIVATION

No.	Name of student	Initial	Number of Questionnaire																Total
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1	Siti Armila Zahro Siagian	SAZS	4	3	3	4	4	4	3	4	3	3	3	3	3	3	3	3	53
2	Yudi Simorangkir	YS	2	1	1	3	2	4	4	1	1	1	3	1	2	3	1	4	34
3	Shinta Atikah	SA	3	4	3	4	1	4	3	2	3	2	3	1	4	1	1	3	42
4	Marni Suryani Daulay	MSD	2	3	1	5	4	3	2	2	3	1	3	4	2	3	4	3	45
5	Mawaddah	M	3	3	2	2	3	2	2	2	2	2	4	1	2	2	3	2	37
6	Diah Rahmadani	DR	3	3	2	2	3	2	2	1	2	1	3	3	1	3	1	3	35
7	Yunan	Y	3	2	2	4	4	1	4	2	3	1	4	1	4	1	1	4	41
8	Hasmar Sani Lubis	HSL	2	3	3	2	2	4	3	3	2	4	4	2	4	4	1	3	46
9	Yusuf Iswandi	YI	4	3	3	3	3	4	4	2	3	1	4	1	4	1	1	4	45
10	Putri Karimah	PK	3	4	3	3	2	2	3	3	3	2	4	1	2	2	2	2	41
11	Roni Uli	RU	3	2	2	4	4	1	3	1	1	1	2	3	3	5	4	2	41
12	Sulaiman Habibi Hrp	SHH	2	3	2	1	3	2	2	3	2	1	3	1	4	1	1	4	35
13	Juliana Siregar	JS	3	4	2	2	1	2	3	3	1	2	5	2	2	2	2	2	38
14	Ulpah Nuri	UN	2	4	2	2	2	3	3	2	3	1	3	1	2	3	4	2	39
15	Rizki Akbar	RA	2	2	2	3	3	3	3	1	2	1	4	1	3	1	2	5	38

16	Rahayu Anggraini	RA	3	3	3	3	1	4	3	1	3	1	3	1	2	1	1	3	36
17	Ely Diana	ED	3	4	3	2	1	4	3	2	3	3	4	1	3	1	1	3	41
18	Ahmad Husein	AH	3	3	3	1	1	2	3	2	4	4	2	1	1	2	4	2	38
19	Ahmad Fajaruddin	AF	3	2	3	3	3	1	2	3	2	1	3	1	4	1	1	4	37
20	Rahma Rolianna	RR	3	4	3	4	3	2	3	2	2	1	3	2	2	2	2	4	42
21	Siti Aisyah	SA	3	3	3	2	2	4	3	3	2	1	2	3	4	2	3	2	42
22	Ummi Habibah Hsb	UHH	3	1	1	3	1	2	2	1	1	1	2	1	1	1	3	2	26
23	Rahma Tika	RT	3	2	1	3	1	1	2	3	2	2	2	2	2	3	1	2	32
24	Nina Febrina Srg	NFS	3	3	2	2	2	3	3	1	1	3	2	1	4	2	1	2	35
25	Mawarni	M	3	2	2	4	1	3	3	1	1	3	2	1	4	2	1	2	35
26	Nirmala Kumala Sari	NKS	3	2	2	4	1	3	3	1	2	3	2	1	4	2	1	2	36
27	Ilda Aufa Srg	IAS	3	2	2	4	3	2	2	1	1	1	3	1	3	2	2	2	34
28	Awaliyah Putri	AP	3	4	3	3	4	5	4	2	3	2	3	5	3	3	1	5	56
29	Aisyah Rahmadani	AR	4	5	5	3	4	5	5	3	3	1	2	5	3	3	1	5	57
30	Siti Al-Hikmah	SA	3	3	3	4	1	2	3	3	3	2	4	3	2	1	1	3	41
31	Fanny Winda Karlina	FWK	2	2	2	5	1	1	1	1	2	1	2	3	1	1	2	2	29
32	Alfa Amna Dalimunthe	AAD	2	1	1	5	1	2	1	1	2	1	2	3	1	1	2	2	28
33	Andika Liswadi	AL	3	5	3	3	3	5	4	2	2	5	4	1	4	3	3	2	52
34	Hendra Rizki Fauzi	HRF	5	5	5	4	3	1	1	4	4	2	2	1	5	2	1	4	49
35	Ananda Siddiq	AS	2	3	3	3	3	2	2	2	2	2	3	2	4	3	3	3	42

36	Fajar Haidil	FH	5	5	5	4	3	2	2	4	4	1	3	2	4	2	2	4	52
37	Noni Adelia Putri Tanjung	NAPT	3	2	2	1	1	4	3	3	3	2	3	2	3	1	1	2	36
38	May Rizki Jannah	MYJ	3	2	2	1	2	4	2	4	3	2	3	2	3	1	1	2	37
39	Nanda Maulana	NM	4	5	5	4	1	4	1	4	4	1	4	1	3	1	1	3	46
40	Jaya Muda Pulungan	JMP	3	4	3	4	2	5	3	2	4	2	4	2	3	1	1	3	46
41	Khoiruddin	K	3	2	2	4	3	1	4	1	3	1	2	1	1	2	2	3	35
42	Rambang	R	4	2	5	1	4	3	2	5	3	4	4	1	3	5	1	3	50
43	Diki Dermawan	DD	2	2	1	2	1	3	2	1	1	1	1	2	2	2	2	1	26
44	Mara Doli	MD	2	2	2	3	1	2	1	1	1	1	2	1	2	3	5	2	31
45	Adit Ramadan Lbs	ARL	3	5	4	4	2	3	4	3	4	2	5	1	5	3	4	2	54
46	Has Fajaruddin Rambe	HFR	3	5	4	4	2	3	4	3	4	3	5	1	5	3	4	2	55
47	Rifki Ahmaddani	RA	3	2	2	3	3	4	4	4	3	2	2	3	5	3	3	2	48
48	Irwan Nauli Hsb	INH	3	5	3	4	2	3	4	3	4	2	5	1	5	3	4	2	53
49	Idris Siagian	IS	3	5	5	2	1	1	2	1	2	1	2	1	2	4	3	5	40
50	Agus Salim Saputra	ASS	1	1	1	1	3	1	3	1	1	1	3	4	2	4	4	1	32
51	Latifah Khairani Batubara	LKB	3	2	2	5	5	3	3	2	1	5	4	1	5	1	1	5	48
52	Nadia Sandra	NS	3	4	3	5	5	3	3		4	2	3	1	4	4	2	4	50
53	Manna Wassalwa	MW	3	4	3	4	5	3	2	4	4	2	3	1	3	3	3	4	51
54	Salsa Bila Nst	SBN	3	2	2	1	2	1	2	2	2	1	2	3	2	2	2	1	30
55	Riska Rahmayani	RR	3	2	2	1	2	1	2	1	2	1	3	1	1	1	1	1	25

56	Adilah Nurazani	AN	3	4	1	4	2	1	4	1	4	1	2	2	3	2	4	2	40
57	Rizka Hidayah Batubara	RHB	3	2	2	3	1	2	2	1		1	1	1	2	1	1	2	25
58	Elga Malika	EM	3	2	1	3	2	2	1	1	1	1	2	1	1	1	1	1	23
59	Dewi Rahayu	DR	3	4	4	3	3	3	2	2	2	2	3	1	3	3	2	3	43
60	Mutiara Handriyani Hrp	MHH	3	4	2	2	1	4	2	2	2	1	3	1	4	1	2	3	37
61	Eka Safitri	ES	4	3	2	3	1	3	2	2	2	2	2	1	2	2	2	2	35
62	Kevin Geovanni Ramadhan	KGR	3	5	3	4	2	3	4	3	4	2	4	1	5	3	4	2	52
63	Adriyan Hrp	AH	3	2	1	3	1	2	1	1	1	1	1	1	2	3	5	2	30
64	Rifki Fahrezi	RF	2	4	2	3	1	3	2	2	2	2	4	1	3	3	3	2	39
65	Iftah Riskina Nasution	IRN	4	4	3	3	3	3	4	2	4	1	4	2	2	2	3	4	48
66	Ahmad Pauzan	AP	2	2	2	3	2	3	3	1	2	2	3	2	3	2	5	3	40
67	Mhd Alief	MA	3	2	3	1	1	2	3	2	4	4	3	1	1	4	2	1	37
68	Nurholida Tanjung	NT	3	2	2	4	4	1	3	1	1	1	3	4	4	5	4	2	44
69	Mutia Safitri	MS	3	3	3	4	2	3	4	3	4	2	4	1	4	3	4	2	49
70	Linni Rahmadani Daulay	LRD	3	3	3	2	1	3	2	1	3	1	2	1	1	1	1	2	30

APPENDIX IV

TEST VOCABULARY

A. Introduction

1. The test is used to find out the students abilities in vocabulary mastery. So, do yourself
2. Your answer will not influence your position in this school.
3. Your answer will be kept for its confidence.

B. Guideline

1. Read carefully
2. If you have a question, ask the researcher
3. Choose the correct answer
4. Time is given for 15 minutes only

- I. In this part of test, choose and make circle one of the words on the right answer



1. Call the _ _ _ _ to help patient to go to the hospital
- | | |
|------------------|--------------|
| a. Police office | c. Ambulance |
| b. Post office | d. Clinic |



2. My mother is watching _ _ _ _ now
- | | |
|---------------|----------------|
| a. A TV | c. A newspaper |
| b. A magazine | d. A radio |



3. My mother always remind me to brush my _ _ _ _ before sleeping
- | | |
|----------|----------|
| a. Foot | c. Shoes |
| b. Teeth | d. Dress |



4. _ _ _ _ is a kind of Indonesian food
- | | |
|----------|---------------|
| a. Pizza | c. Fried rice |
| b. Sushi | d. Kebab |



5. I am so sorry, all _ _ _ _ in this restaurant have been booked
- a. Rooms
 - b. Chairs
 - c. Pools
 - d. Tables



6. I need _ _ _ _ to write a letter
- a. Money
 - b. Paper
 - c. Book
 - d. Wallet



7. Will you and your sister go to the _ _ _ _ to watch a football match?
- a. Hospital
 - b. Cinema
 - c. Stadion
 - d. Theater



8. I do not know the _ _ _ _ to buy some books
- a. House
 - b. Studio
 - c. Clinic
 - d. Place



9. _ _ _ _ is the place to borrow some books at school
- a. Canteen
 - b. Classroom
 - c. Library
 - d. Teacher office



10. My mother has _ _ _ _ in her kitchen that are sharp
- a. Knife
 - b. Knife
 - c. Knives
 - d. Knives

16. A. apple
17. B. coffee
18. D. salt
19. A. rendang
20. A. plate

Appendix V

Validity of Test

No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	1	1	0	1	0	1	1	1	0	1	0	1	1	0	1	0	1	0	1	1	1	1
2	1	1	1	1	1	1	0	1	0	1	0	0	0	0	1	1	1	0	1	1	1	1
3	1	1	0	0	1	0	1	1	1	1	1	0	0	1	0	1	1	0	1	1	1	1
4	1	1	0	1	1	0	0	1	0	1	1	0	1	0	1	0	1	0	0	0	1	0
5	1	1	1	1	0	0	1	1	1	1	0	0	0	0	1	0	1	0	0	0	1	1
6	0	1	0	0	0	0	0	1	1	1	1	0	1	0	0	1	0	1	0	0	1	1
7	1	1	0	0	1	0	0	0	1	1	1	0	0	0	0	0	1	1	0	0	0	0
8	1	1	1	1	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	1	1
9	1	1	0	1	1	0	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1
10	1	1	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1	1
11	1	1	0	0	0	0	1	1	1	1	1	0	1	1	0	1	1	0	1	0	1	1
12	0	0	0	0	0	0	0	1	0	0	1	1	0	1	1	1	1	1	1	1	1	0
13	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	0	0	1	1	1	1	1
14	0	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	1	0	0	0	1	0
15	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0
16	1	1	0	1	0	0	0	1	1	1	0	0	0	0	0	0	1	0	0	1	1	1
17	1	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0
18	1	1	0	1	0	0	0	1	1	1	0	0	0	0	1	0	1	1	0	1	1	1
19	1	1	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0
20	0	1	0	1	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
21	1	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	1	1	1
22	1	1	0	0	0	0	0	1	0	0	1	0	1	0	0	0	1	0	1	1	0	1

N= 22	1 7	1 8	6	1 3	7	5	8	1 8	1 0	1 5	1 1	6	1 0	5	1 3	7	1 7	8	9	1 2	1 6	1 4
p	0. 8	0. 8	0. 2	0 .6	0 .3	0 .2	0. 4	0 .8	0 .5	0. 7	0. 5	0. 3	0. 5	0. 2	0. 6	0. 3	0. 8	0. 4	0. 4	0. 5	0. 7	0. 6
q	0. 2	0. 2	0. 8	0 .4	0 .7	0 .8	0. 6	0 .2	0 .5	0. 3	0. 5	0. 7	0. 5	0. 8	0. 4	0. 7	0. 2	0. 6	0. 6	0. 5	0. 3	0. 4

APPENDIX VI

Calculation of $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

A. Calculation of Pre-test

1. Mean score from score total (M_t)

$$M_t = \frac{\sum X_t}{N}$$
$$M_t = \frac{322}{22} = 14.63$$

2. Standard Deviation (SD_t)

$$SD_t = \sqrt{\frac{\sum X_t^2}{N} - \left(\frac{\sum X_t}{N}\right)^2}$$
$$SD_t = \sqrt{\frac{5316}{22} - \left(\frac{322}{22}\right)^2}$$
$$SD_t = \sqrt{241.63 - 14.63^2}$$
$$SD_t = \sqrt{241.63 - 214.22}$$
$$SD_t = \sqrt{27,41} = 5.23$$

3. Mean Score (M_p)

Item 1

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n_1}$$
$$M_{pl} = \frac{20+21+18+15+14+10+18+24+21+18+25+12+8+15+8+11+12}{17}$$
$$M_{pl} = \frac{270}{17} = 15.88$$

Item 2

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n_2}$$
$$M_{pl} = \frac{20+21+18+15+14+14+10+18+24+21+18+25+12+8+15+12+10+12}{18}$$
$$M_{pl} = \frac{287}{18} = 15.72$$

Item 3

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n_3}$$
$$M_{pl} = \frac{21+14+18+21+25+7}{6}$$
$$M_{pl} = \frac{106}{6} = 17.66$$

Item 4

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n4}$$

$$M_{pl} = \frac{20+21+15+14+18+24+21+25+12+12+15+8+10}{13}$$

$$M_{pl} = \frac{215}{13} = 16.53$$

Item 5

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n5}$$

$$M_{pl} = \frac{21+18+15+10+24+21+25}{7}$$

$$M_{pl} = \frac{134}{7} = 19.14$$

Item 6

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n6}$$

$$M_{pl} = \frac{20+21+18+25+8}{5}$$

$$M_{pl} = \frac{92}{5} = 18.4$$

Item 7

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n7}$$

$$M_{pl} = \frac{21+18+14+24+21+18+25+11}{8}$$

$$M_{pl} = \frac{152}{8} = 19$$

Item 8

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n8}$$

$$M_{pl} = \frac{20+21+18+15+14+14+18+24+21+18+13+25+8+12+15+8+10+12}{18}$$

$$M_{pl} = \frac{286}{18} = 15.88$$

Item 9

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n9}$$

$$M_{pl} = \frac{18+14+14+10+24+21+18+25+12+15}{10}$$

$$M_{pl} = \frac{171}{10} = 17.1$$

Item 10

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n_{10}}$$

$$M_{pl} = \frac{20+21+18+15+14+14+10+18+24+18+25+8+12+15+11}{15}$$

$$M_{pl} = \frac{243}{15} = 16.2$$

Item 11

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n_{11}}$$

$$M_{pl} = \frac{18+15+14+10+24+21+18+13+8+8+12}{11}$$

$$M_{pl} = \frac{161}{11} = 14.63$$

Item 12

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n_{12}}$$

$$M_{pl} = \frac{20+24+21+13+25+10}{6}$$

$$M_{pl} = \frac{113}{6} = 18.83$$

Item 13

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n_{13}}$$

$$M_{pl} = \frac{20+15+14+18+24+21+18+25+11+12}{10}$$

$$M_{pl} = \frac{178}{10} = 17.8$$

Item 14

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n_{14}}$$

$$M_{pl} = \frac{18+18+13+7+8}{5}$$

$$M_{pl} = \frac{64}{5} = 12.8$$

Item 15

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n_{15}}$$

$$M_{pl} = \frac{20+21+15+14+18+24+21+13+25+8+7+15+11}{13}$$

$$M_{pl} = \frac{212}{13} = 16.31$$

Item 16

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n_{16}}$$

$$M_{pl} = \frac{21+18+14+24+21+18+13}{7}$$

$$M_{pl} = \frac{129}{7} = 18.42$$

Item 17

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n17}$$

$$M_{pl} = \frac{20+21+18+15+14+10+18+24+21+18+13+8+12+12+15+10+12}{17}$$

$$M_{pl} = \frac{269}{17} = 15.82$$

Item 18

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n18}$$

$$M_{pl} = \frac{14+10+13+25+7+8+15+8}{8}$$

$$M_{pl} = \frac{100}{8} = 12.5$$

Item 19

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n11}$$

$$M_{pl} = \frac{20+21+18+24+21+18+13+25+12}{9}$$

$$M_{pl} = \frac{172}{9} = 19.11$$

Item 20

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n20}$$

$$M_{pl} = \frac{20+21+18+18+24+21+13+25+12+15+11+12}{12}$$

$$M_{pl} = \frac{210}{12} = 17.5$$

Item 21

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n21}$$

$$M_{pl} = \frac{20+21+18+15+14+14+18+24+21+18+13+25+8+12+15+11}{16}$$

$$M_{pl} = \frac{267}{16} = 16.68$$

Item 22

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n22}$$

$$M_{pl} = \frac{20+21+18+14+14+18+24+21+18+25+7+12+15+11+12}{14}$$

$$M_{pl} = \frac{243}{14} = 17.35$$

Item 23

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n_{23}}$$

$$M_{pl} = \frac{20+14+24+18+25+8+12}{7}$$

$$M_{pl} = \frac{121}{7} = 17.28$$

Item 24

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n_{24}}$$

$$M_{pl} = \frac{20+21+15+24+25+12+15}{7}$$

$$M_{pl} = \frac{132}{7} = 18.85$$

Item 25

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n_{25}}$$

$$M_{pl} = \frac{14+10+24+18+13+12}{6}$$

$$M_{pl} = \frac{91}{6} = 15.16$$

Item 26

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n_{26}}$$

$$M_{pl} = \frac{21+18+15+18+24+13+25+25+12+10+11}{11}$$

$$M_{pl} = \frac{192}{11} = 17.45$$

Item 27

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n_{27}}$$

$$M_{pl} = \frac{20+21+18+15+14+10+18+24+21+18+13+25+12+15+8+10+11+12}{18}$$

$$M_{pl} = \frac{285}{18} = 15.83$$

Item 28

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n_{28}}$$

$$M_{pl} = \frac{20+21+15+14+14+18+21+18+25+8+11+12}{12}$$

$$M_{pl} = \frac{197}{12} = 16.41$$

Item 29

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n_{29}}$$

$$M_{pl} = \frac{20+21+18+18+24+21+25+7+15+10}{10}$$

$$M_{pl} = \frac{179}{10} = 17.9$$

Item 30

$$M_{pl} = \frac{\text{total score of student's score that true item answer}}{n_{30}}$$

$$M_{pl} = \frac{21+14+18+8+10+11}{6}$$

$$M_{pl} = \frac{82}{6} = 13.66$$

4. Calculation of the formulation $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

Item 1

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{15.88 - 14.63}{5.23} \sqrt{\frac{0.8}{0.2}}$$

$$r_{pbi} = \frac{1.25}{5.23} \sqrt{4}$$

$$r_{pbi} = 0.239 \times 2 = 0.478$$

Item 2

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{15.94 - 14.63}{5.23} \sqrt{\frac{0.8}{0.2}}$$

$$r_{pbi} = \frac{1.31}{5.23} \sqrt{4}$$

$$r_{pbi} = 0.251 \times 2 = 0.502$$

Item 3

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{17.66 - 14.63}{5.23} \sqrt{\frac{0.3}{0.7}}$$

$$r_{pbi} = \frac{3.03}{5.23} \sqrt{0.428}$$

$$r_{pbi} = 0.579 \times 0.654 = 0.378$$

Item 4

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{16,53 - 14,63}{5,23} \sqrt{\frac{0,6}{0,4}}$$

$$r_{pbi} = \frac{1,9}{5,23} \sqrt{1,5}$$

$$r_{pbi} = 0,363 \times 1,22 = 0,443$$

Item 5

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{19,14 - 14,63}{5,23} \sqrt{\frac{0,3}{0,7}}$$

$$r_{pbi} = \frac{4,51}{5,23} \sqrt{0,42}$$

$$r_{pbi} = 0,862 \times 0,648 = 0,558$$

Item 6

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{18,4 - 14,63}{5,23} \sqrt{\frac{0,2}{0,8}}$$

$$r_{pbi} = \frac{3,77}{5,23} \sqrt{0,25}$$

$$r_{pbi} = 0,720 \times 0,5 = 0,360$$

Item 7

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{19 - 14,63}{5,23} \sqrt{\frac{0,4}{0,6}}$$

$$r_{pbi} = \frac{4,37}{5,23} \sqrt{0,66}$$

$$r_{pbi} = 0,835 \times 0,812 = 0,678$$

Item 8

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{15,88 - 14,63}{5,23} \sqrt{\frac{0,8}{0,2}}$$

$$r_{pbi} = \frac{1,25}{5,23} \sqrt{4}$$

$$r_{pbi} = 0,239 \times 2 = 0,478$$

Item 9

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{17.1 - 14.63}{5.23} \sqrt{\frac{0.5}{0.5}}$$

$$r_{pbi} = \frac{2.47}{5.23} \sqrt{1}$$

$$r_{pbi} = 0.472 \times 1 = 0.472$$

Item 10

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{16.2 - 14.63}{5.23} \sqrt{\frac{0.7}{0.3}}$$

$$r_{pbi} = \frac{1.57}{5.23} \sqrt{2.33}$$

$$r_{pbi} = 0.300 \times 1.526 = 0.458$$

Item 11

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{14.63 - 14.63}{5.23} \sqrt{\frac{0.5}{0.5}}$$

$$r_{pbi} = \frac{0}{5.23} \sqrt{1}$$

$$r_{pbi} = 0 \times 1 = 0$$

Item 12

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{18.83 - 14.63}{5.23} \sqrt{\frac{0.3}{0.7}}$$

$$r_{pbi} = \frac{4.2}{5.23} \sqrt{0.428}$$

$$r_{pbi} = 0.803 \times 0.654 = 0.525$$

Item 13

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{17.8 - 14.63}{5.23} \sqrt{\frac{0.5}{0.5}}$$

$$r_{pbi} = \frac{3.17}{5.23} \sqrt{1}$$

$$r_{pbi} = 0.606 \times 1 = 0.606$$

Item 14

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{12,8 - 14,63}{5,23} \sqrt{\frac{0,2}{0,8}}$$

$$r_{pbi} = -\frac{1,83}{5,23} \sqrt{0,25}$$

$$r_{pbi} = -0,349 \times 0,5 = -0,174$$

Item 15

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{16,31 - 14,63}{5,23} \sqrt{\frac{0,6}{0,4}}$$

$$r_{pbi} = \frac{1,68}{5,23} \sqrt{1,5}$$

$$r_{pbi} = 0,321 \times 1,22 = 0,393$$

Item 16

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{18,42 - 14,63}{5,23} \sqrt{\frac{0,3}{0,7}}$$

$$r_{pbi} = \frac{3,79}{5,23} \sqrt{0,428}$$

$$r_{pbi} = 0,724 \times 0,654 = 0,473$$

Item 17

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{15,82 - 14,63}{5,23} \sqrt{\frac{0,8}{0,2}}$$

$$r_{pbi} = \frac{1,19}{5,23} \sqrt{4}$$

$$r_{pbi} = 0,227 \times 2 = 0,445$$

Item 18

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{12,5 - 14,63}{5,23} \sqrt{\frac{0,4}{0,6}}$$

$$r_{pbi} = \frac{-2.13}{5.23} \sqrt{0.66}$$

$$r_{pbi} = -0.407 \times 0,812 = -0.330$$

Item 19

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{19.11 - 14.63}{5.23} \sqrt{\frac{0.4}{0.6}}$$

$$r_{pbi} = \frac{4.48}{5.23} \sqrt{0.66}$$

$$r_{pbi} = 0.856 \times 0.812 = 0.695$$

Item 20

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{17.5 - 14.63}{5.23} \sqrt{\frac{0.5}{0.5}}$$

$$r_{pbi} = \frac{2.87}{5.23} \sqrt{1}$$

$$r_{pbi} = 0.548 \times 1 = 0.548$$

Item 21

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{16.68 - 14.63}{5.23} \sqrt{\frac{0.7}{0.3}}$$

$$r_{pbi} = \frac{2.05}{5.23} \sqrt{2.33}$$

$$r_{pbi} = 0.391 \times 1.526 = 0.596$$

Item 22

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{17.35 - 14.63}{5.23} \sqrt{\frac{0.6}{0.4}}$$

$$r_{pbi} = \frac{2.72}{5.23} \sqrt{1,5}$$

$$r_{pbi} = 0.520 \times 1.22 = 0.634$$

Item 23

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{17.28 - 14.63}{5.23} \sqrt{\frac{0.3}{0.7}}$$

$$r_{pbi} = \frac{2.65}{5.23} \sqrt{0.428}$$

$$r_{pbi} = 0.506 \times 0.654 = 0.331$$

Item 24

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{18.85 - 14.63}{5.23} \sqrt{\frac{0.3}{0.7}}$$

$$r_{pbi} = \frac{4.22}{5.23} \sqrt{0.428}$$

$$r_{pbi} = 0.806 \times 0.654 = 0.527$$

Item 25

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{15.16 - 14.63}{5.23} \sqrt{\frac{0.2}{0.8}}$$

$$r_{pbi} = \frac{0.53}{5.23} \sqrt{0.25}$$

$$r_{pbi} = 0.101 \times 0.5 = 0.050$$

Item 26

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{17.45 - 14.63}{5.23} \sqrt{\frac{0.5}{0.5}}$$

$$r_{pbi} = \frac{2.82}{5.23} \sqrt{1}$$

$$r_{pbi} = 0.539 \times 1 = 0.539$$

Item 27

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{15.83 - 14.63}{5.23} \sqrt{\frac{0.8}{0.2}}$$

$$r_{pbi} = \frac{1.02}{5.23} \sqrt{4}$$

$$r_{pbi} = 0.230 \times 2 = 0.460$$

Item 28

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{16.41 - 14.63}{5.23} \sqrt{\frac{0.5}{0.5}}$$

$$r_{pbi} = \frac{1.78}{5.23} \sqrt{1}$$

$$r_{pbi} = 0.340 \times 1 = 0.340$$

Item 29

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{17.9 - 14.63}{5.23} \sqrt{\frac{0.5}{0.5}}$$

$$r_{pbi} = \frac{3.27}{5.23} \sqrt{1}$$

$$r_{pbi} = 0.625 \times 1 = 0.625$$

Item 30

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{13.66 - 14.63}{5.23} \sqrt{\frac{0.7}{0.3}}$$

$$r_{pbi} = \frac{-0.97}{5.23} \sqrt{2.33}$$

$$r_{pbi} = -0.185 \times 1.526 = -0.283$$

APPENDIX VII

Table Validity of Test

No	Mp	Mt	SDt	P	q	$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$	Rt on 5% significant	Interpretation
1	15.88	14.63	5.23	0.8	0.2	0.478	0.423	Valid
2	15.94	14.63	5.23	0.8	0.2	0.502	0.423	Valid
3	17.66	14.63	5.23	0.2	0.8	0.378	0.423	Invalid
4	16.53	14.63	5.23	0.6	0.4	0.443	0.423	Valid
5	19.14	14.63	5.23	0.3	0.7	0.558	0.423	Valid
6	18.4	14.63	5.23	0.2	0.8	0.360	0.423	Invalid
7	19	14.63	5.23	0.4	0.6	0.678	0.423	Valid
8	15.88	14.63	5.23	0.8	0.2	0.478	0.423	Valid
9	17.1	14.63	5.23	0.5	0.5	0.472	0.423	Valid
10	15.73	14.63	5.23	0.7	0.3	0.458	0.423	Valid
11	14.63	14.63	5.23	0.5	0.5	0	0.423	Invalid
12	18.83	14.63	5.23	0.3	0.7	0.525	0.423	Valid
13	17.8	14.63	5.23	0.5	0.5	0.606	0.423	Valid
14	12.8	14.63	5.23	0.2	0.8	-0.174	0.423	Invalid
15	16.31	14.63	5.23	0.6	0.4	0.393	0.423	Invalid
16	18.42	14.63	5.23	0.3	0.7	0.473	0.423	Valid
17	15.82	14.63	5.23	0.8	0.2	0.445	0.423	Valid
18	12.5	14.63	5.23	0.4	0.6	0.330	0.423	Invalid
19	19.11	14.63	5.23	0.4	0.6	0.695	0.423	Valid
20	17.5	14.63	5.23	0.5	0.5	0.548	0.423	Valid
21	16.68	14.63	5.23	0.7	0.3	0.596	0.423	Valid
22	17.35	14.63	5.23	0.6	0.4	0.634	0.423	Valid
23	17.28	14.63	5.23	0.3	0.5	0.331	0.423	Invalid
24	18.85	14.63	5.23	0.3	0.7	0.527	0.423	Valid
25	15.16	14.63	5.23	0.2	0.8	0.050	0.423	Invalid
26	15.90	14.63	5.23	0.5	0.5	0.539	0.423	Valid
27	15.83	14.63	5.23	0.8	0.2	0.460	0.423	Valid
28	16.41	14.63	5.23	0.5	0.5	0.340	0.423	Invalid
29	17.9	14.63	5.23	0.5	0.5	0.625	0.423	Valid
30	13.66	14.63	5.23	0.7	0.3	0.283	0.423	Invalid

APPENDIXVIII

Reliability of Test

No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	1	1	0	1	0	1	1	1	0	1	0	1	1	0	1	0	1	0	1	1	1	1
2	1	1	1	1	1	1	0	1	0	1	0	0	0	0	1	1	1	0	1	1	1	1
3	1	1	0	0	1	0	1	1	1	1	1	0	0	1	0	1	1	0	1	1	1	1
4	1	1	0	1	1	0	0	1	0	1	1	0	1	0	1	0	1	0	0	0	1	0
5	1	1	1	1	0	0	1	1	1	1	0	0	0	0	1	0	1	0	0	0	1	1
6	0	1	0	0	0	0	0	1	1	1	1	0	1	0	0	1	0	1	0	0	1	1
7	1	1	0	0	1	0	0	0	1	1	1	0	0	0	0	0	1	1	0	0	0	0
8	1	1	1	1	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	1	1
9	1	1	0	1	1	0	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1
10	1	1	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1	1
11	1	1	0	0	0	0	1	1	1	1	1	0	1	1	0	1	1	0	1	0	1	1
12	0	0	0	0	0	0	0	1	0	0	1	1	0	1	1	1	1	1	1	1	1	0
13	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	0	0	1	1	1	1	1
14	0	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	1	0	0	0	1	0
15	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0
16	1	1	0	1	0	0	0	1	1	1	0	0	0	0	0	0	1	0	0	1	1	1
17	1	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0
18	1	1	0	1	0	0	0	1	1	1	0	0	0	0	1	0	1	1	0	1	1	1
19	1	1	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0
20	0	1	0	1	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
21	1	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	1	1	1
22	1	1	0	0	0	0	0	1	0	0	1	0	1	0	0	0	1	0	1	1	0	1
N=	1	1	6	1	7	5	8	1	1	1	1	6	1	5	1	7	1	8	9	1	1	1
22	7	8		3			8	8	0	5	1		0		3		7			2	6	4
p	0. 8	0. 8	0. 2	0 .6	0 .3	0 .2	0. 4	0 .8	0 .5	0. 7	0. 5	0. 3	0. 5	0. 2	0. 6	0. 3	0. 8	0. 4	0. 4	0. 5	0. 7	0. 6
q	0. 2	0. 2	0. 8	0 .4	0 .7	0 .8	0. 6	0 .2	0 .5	0. 3	0. 5	0. 7	0. 5	0. 8	0. 4	0. 7	0. 2	0. 6	0. 6	0. 5	0. 3	0. 4
pq	0. 1 6	0. 1 6	0. 1 6	0 .2 4	0 .2 1	0 .1 6	0. 2 4	0 .1 6	0 .2 5	0. 2 1	0. 2 5	0. 2 1	0. 2 5	0. 1 6	0. 2 4	0. 2 1	0. 1 6	0. 2 4	0. 2 4	0. 2 5	0. 2 1	0. 2 4

APPENDIX VIII

Reliability of Test

To get reliability of the test, the researcher uses formula KR-20:

$$R_{11} = \left(\left\{ \text{EMBED Equation 3} \right\} \right) \left(\frac{S_t^2 - \sum pq}{S_t^2} \right)$$

$$N = 30$$

$$\sum X_t = 322$$

$$\sum X_t^2 = 5316$$

$$\sum pq = 6.31$$

$$S_t^2 = \sum X_t^2 - \left(\frac{\sum X_t}{N} \right)^2$$

$$= 5316 - \left(\frac{322}{30} \right)^2 = 5316 - 10.73^2 = 5316 - 115.20 = 5200.8$$

$$S_t^2 = \frac{\sum X_t^2}{N} = \frac{5200.8}{30}$$

$$S_t^2 = 173.36$$

$$R_{11} = \left(\left\{ \text{EMBED Equation 3} \right\} \right) \left(\frac{S_t^2 - \sum pq}{S_t^2} \right)$$

$$R_{11} = \left(\frac{30}{30-1} \right) \left(\frac{173.36 - 6.31}{173.36} \right) = \left(\frac{30}{29} \right) \left(\frac{167.05}{173.36} \right)$$

$$= (1.03) (0.96)$$

$$= 0.99 \text{ (} r_{11} > 0.70 = \text{reliable)}$$

Test is reliable if $r_{\text{count}} > r_{\text{tabel}}$. Based on calculation above, the test has high reliability.

APPENDIX X**THE RESULT OF SUDENTS' VOCABULARY MASTERY**

No.	Initial of Students	Score of Students
1.	SAZS	65
2.	YS	70
3.	SA	65
4.	MSD	75
5.	M	70
6.	DR	65
7.	Y	65
8.	HSL	65
9.	YI	45
10.	PK	75
11.	RU	30
12.	SHH	45
13.	JS	65
14.	UN	65
15.	RA	40
16.	RA	60
17.	ED	60
18.	AH	65
19.	AF	60
20.	RR	70
21.	SA	45
22.	UHH	70
23.	RT	45
24.	NFS	75
25.	M	65
26.	NKS	70
27.	IAS	70
28.	AP	70
29.	AR	70
30.	SA	70
31.	FWK	75
32.	AAD	75
33.	AL	40
34.	HRF	70
35.	AS	65
36.	FH	55
37.	NAPT	60

38.	MYJ	60
39.	NM	60
40.	JMP	55
41.	K	70
42.	R	15
43.	DD	60
44.	MD	50
45.	ARL	60
46.	HFR	55
47.	RA	50
48.	INH	70
49.	IS	45
50.	ASS	50
51.	LKB	50
52.	NS	70
53.	MW	45
54.	SBN	80
55.	RR	80
56.	AN	60
57.	RHB	65
58.	EM	65
59.	DR	65
60.	MHH	65
61.	ES	65
62.	KGR	65
63.	AH	45
64.	RF	55
65.	IRN	60
66.	AP	65
67.	MA	40
68.	NT	60
69.	MS	65
70.	LRD	60
TOTAL		4235

APPENDIX IX

THE RESULT OF STUDENTS' LEARNING MOTIVATION

No.	Initial of Students	Score of Students
1.	SAZS	52
2.	YS	32
3.	SA	42
4.	MSD	45
5.	M	30
6.	DR	35
7.	Y	41
8.	HSL	44
9.	YI	44
10.	PK	35
11.	RU	41
12.	SHH	33
13.	JS	32
14.	UN	34
15.	RA	32
16.	RA	31
17.	ED	41
18.	AH	37
19.	AF	36
20.	RR	42
21.	SA	42
22.	UHH	26
23.	RT	28
24.	NFS	35
25.	M	35
26.	NKS	35
27.	IAS	34
28.	AP	45
29.	AR	56
30.	SA	40
31.	FWK	26
32.	AAD	26
33.	AL	52
34.	HRF	48
35.	AS	41
36.	FH	50
37.	NAPT	35

38.	MYJ	35
39.	NM	46
40.	JMP	46
41.	K	34
42.	R	49
43.	DD	26
44.	MD	31
45.	ARL	53
46.	HFR	53
47.	RA	47
48.	INH	53
49.	IS	40
50.	ASS	32
51.	LKB	48
52.	NS	50
53.	MW	51
54.	SBN	30
55.	RR	25
56.	AN	40
57.	RHB	25
58.	EM	24
59.	DR	43
60.	MHH	37
61.	ES	35
62.	KGR	52
63.	AH	30
64.	RF	39
65.	IRN	48
66.	AP	40
67.	MA	37
68.	NT	44
69.	MS	49
70.	LRD	30
TOTAL		2735

APPENDIX XI

The Correlation Between Students' Learning Motivation and Vocabulary Mastery

No.	Initial	X	Y	X ²	Y ²	XY
1.	SAZS	52	65	2704	4225	3380
2.	YS	32	70	1024	4900	2240
3.	SA	42	65	1764	4225	2730
4.	MSD	45	75	2025	5625	3375
5.	M	30	70	900	4900	2100
6.	DR	35	65	1225	4225	2275
7.	Y	41	65	1681	4225	2665
8.	HSL	44	65	1936	4225	2860
9.	YI	44	45	1936	2025	1980
10.	PK	35	75	1225	5625	2625
11.	RU	41	30	1681	900	1230
12.	SHH	33	45	1089	2025	1485
13.	JS	32	65	1024	4225	2080
14.	UN	34	65	1156	4225	2210
15.	RA	32	40	1024	1600	1280
16.	RA	31	60	961	3600	1860
17.	ED	41	60	1681	3600	2460
18.	AH	37	65	1369	4225	2405
19.	AF	36	60	1296	3600	2160
20.	RR	42	70	1764	4900	2940
21.	SA	42	45	1764	2025	1890
22.	UHH	26	70	676	4900	1820
23.	RT	28	45	784	2015	1260
24.	NFS	35	75	1225	5625	2625
25.	M	35	65	1225	4225	2275
26.	NKS	35	70	1225	4900	2450
27.	IAS	34	70	1156	4900	2380
28.	AP	45	70	2025	4900	3150
29.	AR	56	70	3136	4900	3920
30.	SA	40	70	1600	4900	2800
31.	FWK	26	75	676	5625	1950
32.	AAD	26	75	676	5625	1950
33.	AL	52	40	2704	1600	2080
34.	HRF	48	70	2304	4900	3360
35.	AS	41	65	1681	4225	2665
36.	FH	50	55	2500	3025	2750
37.	NAPT	35	60	1225	3600	2100

38.	MYJ	35	60	1225	3600	2100
39.	NM	46	60	2116	3600	2760
40.	JMP	46	55	2116	3025	2530
41.	K	34	70	1156	4900	2380
42.	R	49	15	2401	225	735
43.	DD	26	60	676	3600	1560
44.	MD	31	50	961	2500	1550
45.	ARL	53	60	2809	3600	3180
46.	HFR	53	55	2809	3025	2915
47.	RA	47	50	2209	2500	2350
48.	INH	53	70	2809	4900	3710
49.	IS	40	45	1600	2025	1800
50.	ASS	32	50	1024	2500	1600
51.	LKB	48	50	2304	2500	2400
52.	NS	50	70	2500	4900	3500
53.	MW	51	45	2601	2025	2295
54.	SBN	30	80	900	6400	2400
55.	RR	25	80	625	6400	2000
56.	AN	40	60	1600	3600	2400
57.	RHB	25	65	625	4225	1625
58.	EM	24	65	576	4225	1560
59.	DR	43	65	1849	4225	2795
60.	MHH	37	65	1369	4225	2405
61.	ES	35	65	1225	4225	2275
62.	KGR	52	65	2704	4225	3380
63.	AH	30	45	900	2025	1350
64.	RF	39	55	1521	3025	2145
65.	IRN	48	60	2304	3600	2880
66.	AP	40	65	1600	4225	2600
67.		37	40	1369	1600	1480
68.		44	60	1936	3600	2640
69.		49	65	2401	4225	3185
70.		30	60	900	3600	1800
TOTAL		$\Sigma X=2735$	$\Sigma Y=4235$	$\Sigma X^2=111767$	$\Sigma Y^2=266065$	$\Sigma XY=164050$

APPENDIX XII

VARIABLE X (LEARNING MOTIVATION)

- Maximal and minimum score of students were gotten from by setting the variable score from the low to the high score.

24	25	25	26	26	26	26	28	30	30
30	30	31	31	32	32	32	32	33	34
34	34	35	35	35	35	35	35	35	35
36	37	37	37	39	40	40	40	40	41
41	41	41	42	42	42	43	44	44	44
45	45	46	46	47	48	48	48	49	49
50	50	51	52	52	52	53	53	53	56

- High score = 56

- Low score = 24

- Range

$$R = \text{High score} - \text{low score}$$

$$= 56 - 24 = 32$$

- The total of the class (BK) = $1 + 3.3 \log n$
 $= 1 + 3.3 \log (70)$
 $= 1 + 3.3 (1.845)$
 $= 1 + 6.088$
 $= 7.088$
 $= 7$

- Interval (i)

$$I = \frac{\text{range}}{\text{many class}} = \frac{32}{7} = 4.57 = 5$$

- Mean score

No.	Class interval	F	X	FX	F _{kb}	F _{ka}
1	24 – 29	8	26.5	212	70=N	8
2	30 – 35	22	32.5	715	62	30
3	36 – 41	13	38.5	500.5	40	43
4	42 – 47	12	44.5	534	27	55
5	48 – 53	14	50.5	707	15	69
6	54 – 59	1	56.5	56.5	1	70=N

	Total	70		2725		
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Mean (X)

$$\begin{aligned} X &= \frac{\sum FX}{F} \\ &= \frac{2725}{70} \\ &= 38.92 \end{aligned}$$

8. Median

$$Me = l + \left(\frac{\frac{1}{2}N - f_{kb}}{f_i} \right) \times i$$

$$l = 41.5 \quad i = 5$$

$$f_i = 12 \quad F_{kb} = 27$$

$$\frac{1}{2}n = 35$$

$$\begin{aligned} Me &= l + \left(\frac{\frac{1}{2}N - f_{kb}}{f_i} \right) \times i \\ &= 41,5 + \left(\frac{35 - 27}{12} \right) \times 5 \\ &= 41.5 + \left(\frac{8}{12} \right) \times 5 \\ &= 41.5 + (3.33) \\ &= 44.83 \end{aligned}$$

9. Modus

$$M_o = l + \left(\frac{f_a}{f_a + f_b} \right) \times i$$

$$l = 29.5 \quad i = 5$$

$$f_a = 8 \quad F_b = 13$$

$$\begin{aligned} M_o &= l + \left(\frac{f_a}{f_a + f_b} \right) \times i \\ &= 29.5 + \left(\frac{8}{8 + 13} \right) \times 5 \\ &= 29.5 + 1.90 \\ &= 31.4 \end{aligned}$$

APPENDIX XIII

VARIABLE Y

(VOCABULARY MASTERY)

1. Maximal and minimum score of students were gotten from by setting the variable score from the low to the high score.

15	30	40	40	40	45	45	45	45	45
45	45	50	50	50	50	55	55	55	55
60	60	60	60	60	60	60	60	60	60
60	60	65	65	65	65	65	65	65	65
65	65	65	65	65	65	65	65	65	65
70	70	70	70	70	70	70	70	70	70
70	70	70	75	75	75	75	75	80	80

2. High score = 80

3. Low score = 15

4. Range

$$R = \text{High score} - \text{low score}$$

$$= 80 - 15 = 65$$

5. The total of the class (BK) = $1 + 3.3 \log n$
 $= 1 + 3.3 \log (70)$
 $= 1 + 3.3 (1.845)$
 $= 1 + 6.088$
 $= 7.088$
 $= 7$

6. Interval (i)

$$I = \frac{\text{range}}{\text{many class}} = \frac{65}{7} = 9.28 = 9$$

7. Mean score

No.	Class interval	F	X	FX	F _{kb}	F _{ka}
1	15 – 24	1	19.5	19.5	70 = N	1
2	25 – 34	1	29.5	29.5	69	2
3	35 – 44	3	39.5	118.5	68	5
4	45 – 54	11	49.5	544.5	65	16
5	55 – 64	16	59.5	952	54	32
6	65 – 74	31	69.5	2154.5	38	63

7	75 - 84	7	79.5	556.5	7	70 = N
TOTAL		70		4375		

Mean (X)

$$\begin{aligned} X &= \frac{\sum FX}{F} \\ &= \frac{4375}{70} \\ &= 62.5 \end{aligned}$$

8. Median

$$Me = l + \left(\frac{\frac{1}{2}N - f_{kb}}{f_i} \right) \times i$$

$$l = 44.5 \quad i = 5$$

$$f_i = 11 \quad F_{kb} = 65$$

$$\frac{1}{2}n = 35$$

$$\begin{aligned} Me &= l + \left(\frac{\frac{1}{2}N - f_{kb}}{f_i} \right) \times i \\ &= 44,5 + \left(\frac{35 - 65}{11} \right) \times 5 \\ &= 44.5 + \left(\frac{-30}{11} \right) \times 5 \\ &= 44.5 + (-13.63) \\ &= 30.87 \end{aligned}$$

9. Modus

$$M_0 = l + \left(\frac{f_a}{f_a + f_b} \right) \times i$$

$$l = 64.5 \quad i = 5$$

$$f_a = 16 \quad F_b = 7$$

$$\begin{aligned} M_0 &= l + \left(\frac{f_a}{f_a + f_b} \right) \times i \\ &= 64.5 + \left(\frac{16}{16+7} \right) \times 5 \\ &= 64.5 + 3.47 \\ &= 67.97 \end{aligned}$$

APPENDIX XIV

NORMALITY OF DATA X AND Y

A. Normality of Data X (Learning Motivation)

No.	Class interval	F	X	x'	fx'	x' ²	fx' ²
1	24 – 29	8	26.5	+3	24	9	72
2	30 – 35	22	32.5	+2	44	4	88
3	36 – 41	13	38.5	+1	13	1	13
4	42 – 47	12	44.5	0	0	0	0
5	48– 53	14	50.5	-1	-14	1	14
6	54 - 59	1	56.5	-2	-2	4	4
7	60 – 65	0	62.5	-3	0	9	0
	i= 5	70	-	-	65	-	191

$$\begin{aligned}
 SD_t &= \sqrt{\frac{\sum fx'^2}{n} - \left(\frac{\sum fx'}{n}\right)^2} \\
 &= \sqrt{\frac{191}{70} - \left(\frac{65}{70}\right)^2} \\
 &= \sqrt{2.72 - (0.92)^2} \\
 &= \sqrt{2.72 - (0.8464)} \\
 &= \sqrt{1.8736} \\
 &= 5 \times 1.36 \\
 &= 6.8
 \end{aligned}$$

Table of Normality Data Test with Chi Kuadrat Formula

Interval of score	Real upper Limit	Z – Score	Limit of Large of the Area	Large of area	f ₀	f _h	$\frac{(f_0 - f_h)^2}{f_h}$
60 – 65	65.5	3.90	0.5000		0	0	
54 - 59	59.5	3.02	0.4987	0.001	1	1	
48 – 53	53.5	2.14	0.4838	0.06	15	14	
42 – 47	47.5	1.26	0.3962	0.08	10	12	
36 – 41	41.5	0.37	0.1443	0.25		13	
30 – 35	35.5	-0.50	0.30854	-0.16	23	22	
24 - 29	29.5	-1.38	0.08379	0.22		8	

	23.5	-2.26	0.01101	0.07			

B. Normality of Data Y (Vocabulary Mastery)

No.	Class interval	F	X	x'	fx'	x' ²	fx' ²
1	15 – 24	1	19.5	+3	3	9	9
2	25 – 34	1	29.5	+2	2	4	4
3	35 – 44	3	39.5	+1	3	1	3
4	45 – 54	11	49.5	0	0	0	0
5	55 – 64	16	59.5	-1	-16	1	16
6	65 – 74	31	69.5	-2	-62	4	124
7	75 - 84	7	79.5	-3	-21	9	63
	i = 9	70			-91	-	219

$$\begin{aligned}
 SD_t &= \sqrt{i \left[\frac{\sum fx'^2}{n} - \left(\frac{\sum fx'}{n} \right)^2 \right]} \\
 &= \sqrt{9 \left[\frac{219}{70} - \left(\frac{-91}{70} \right)^2 \right]} \\
 &= \sqrt{9 \left[3.12 - (-1.3)^2 \right]} \\
 &= \sqrt{9 \left[3.12 - (1.69) \right]} \\
 &= \sqrt{9 \times 1.43} \\
 &= 9 \times 1.20 \\
 &= 10.8
 \end{aligned}$$

Table of Normality Data Test with Chi Kuadrat Formula

Interval of score	Real upper Limit	Z – Score	Limit of Large of the Area	Large of area	f _h	f ₀	$\frac{(f_0 - f_h)^2}{f_h}$
75 – 84	84.5	2.03	0.4788		6	7	1
65 – 74	74.5	1.11	0.3665	0.11	30	31	1
55 – 64	64.5	0.18	0.0714	0.29	17	16	1
45 – 54	54.5	-0.74	0.22965	-0.15	13	11	4
35 – 44	44.5	-1.66	0.04846	0.18	4	3	1
25 – 34	34.5	-2.59	0.00480	0.04	0	1	0
15 – 24	24.5	-3.51	0.00022	0.004	0	1	0

	14.5	-4.44					
\bar{X}^2							6

APPENDIX XV

HOMOGENITY TEST

$$S = \sqrt{\frac{n\sum Xi^2 - \sum xi^2}{n(n-1)}}$$

Hypotheses:

$$H_0 : \sigma_1^2 = \sigma_2^2$$

$$H_1 : \sigma_1^2 \neq \sigma_2^2$$

A. Variant of data X

No.	X_i	X_i^2
71.	53	2809
72.	34	1156
73.	42	1764
74.	45	2025
75.	37	1369
76.	35	1225
77.	41	1681
78.	46	2116
79.	45	2025
80.	41	1681
81.	41	1681
82.	35	1225
83.	38	1444
84.	39	1521
85.	38	1444
86.	36	1296
87.	41	1681
88.	38	1444

89.	37	1369
90.	42	1764
91.	42	1764
92.	26	676
93.	32	1024
94.	35	1225
95.	35	1225
96.	36	1296
97.	34	1156
98.	56	3136
99.	57	3249
100.	41	1681
101.	29	841
102.	28	784
103.	52	2704
104.	49	2401
105.	42	1764
106.	52	2704
107.	36	1296
108.	37	1369
109.	46	2116
110.	46	2116
111.	35	1225
112.	50	2500
113.	26	676
114.	31	961
115.	54	2916
116.	55	3025
117.	48	2304
118.	53	2809

119.	40	1600
120.	32	1024
121.	48	2304
122.	50	2500
123.	51	2601
124.	30	900
125.	25	625
126.	40	1600
127.	25	625
128.	23	576
129.	43	1849
130.	37	1369
131.	35	1225
132.	52	2704
133.	30	900
134.	39	1521
135.	48	2304
136.	40	1600
137.	37	1369
138.	44	1936
139.	49	2401
140.	30	900
	2815	118096

$$\begin{aligned}
 n &= 70 \\
 \sum x_i &= 2815 \\
 \sum x_i^2 &= 118096 \\
 \text{So:}
 \end{aligned}$$

$$\begin{aligned}
 S &= \sqrt{\frac{n \sum x_i^2 - (\sum x_i)^2}{n(n-1)}} \\
 &= \sqrt{\frac{70 \times 118096 - 2815^2}{70(70-1)}}
 \end{aligned}$$

$$\begin{aligned}
&= \sqrt{\frac{8266720 - 2815}{70(69)}} \\
&= \sqrt{\frac{8263905}{4830}} \\
&= \sqrt{1710.9534161} \\
&= 41.36
\end{aligned}$$

B. Variant of data Y

No.	Yi	Yi ²
1.	65	4225
2.	45	2025
3.	40	1600
4.	50	2500
5.	40	1600
6.	40	1600
7.	45	2025
8.	60	3600
9.	45	2025
10.	75	5625
11.	30	900
12.	45	2025
13.	65	4225
14.	60	3600
15.	40	1600
16.	55	3025
17.	60	3600
18.	65	4225
19.	55	3025
20.	65	4225
21.	45	2025
22.	30	900
23.	45	2015
24.	50	2500
25.	65	4225
26.	45	2025
27.	60	3600
28.	70	4900
29.	70	4900
30.	50	2500
31.	35	1225

32.	40	1600
33.	55	3025
34.	70	4900
35.	50	2500
36.	55	3025
37.	50	2500
38.	30	900
39.	50	2500
40.	55	3025
41.	45	2025
42.	15	225
43.	20	400
44.	40	1600
45.	50	2500
46.	35	1225
47.	50	2500
48.	70	4900
49.	35	1225
50.	50	2500
51.	50	2500
52.	70	4900
53.	45	2025
54.	80	6400
55.	80	6400
56.	40	1600
57.	35	1225
58.	45	2025
59.	45	2025
60.	35	1225
61.	55	3025
62.	65	4225
63.	35	1225
64.	45	2025
65.	60	3600
66.	65	4225
67.	40	1600
68.	50	2500
69.	45	2025
70.	40	1600
	3500	187540

$$n = 70$$

$$\sum x_i = 3500$$

$$\sum x_i^2 = 187540$$

So:

$$\begin{aligned} S &= \sqrt{\frac{n\sum Xi^2 - \sum Xi}{n(n-1)}} \\ &= \sqrt{\frac{70 \times 187540 - 3500}{70(70-1)}} \\ &= \sqrt{\frac{13127800 - 3500}{70(69)}} \\ &= \sqrt{\frac{13124300}{4830}} \\ &= \sqrt{2717.2463768} \\ &= 52.12 \end{aligned}$$

The formula was used to test hypothesis was:

$$F = \frac{\text{the biggest variant}}{\text{the smallest variant}}$$

So:

$$\begin{aligned} F &= \frac{52.12}{41.36} \\ &= 1.260 \end{aligned}$$

After doing the calculation, researcher found that $F_{\text{count}} = 1.260$ with α 5% and $dk = 70$ from the distribution list F, researcher found that $F_{\text{table}} = 1.980$ cause $F_{\text{count}} < F_{\text{table}}$ ($1.260 < 1.980$). So, there is no difference in variant between the X class and Y. It means that the variant is homogenous.

APPENDIX XVI

Chi-Square Table

dk	Significant level					
	50%	30%	20%	10%	5%	1%
1	0,455	1,074	1,642	2,704	3,841	6,635
2	1,386	2,408	3,219	4,605	5,991	9,210
3	2,366	3,665	4,642	6,251	7,815	11,341
4	3,357	4,878	5,989	7,779	9,488	13,277
5	4,351	6,064	7,289	9,236	11,070	15,086
6	5,348	7,231	8,558	10,645	12,592	16,812
7	6,346	8,383	9,803	12,017	14,067	18,475
8	7,344	9,524	11,030	13,362	15,507	20,090
9	8,343	10,656	12,242	14,684	16,919	21,666
10	9,342	11,781	13,442	15,987	18,307	23,209
11	10,341	12,899	14,631	17,275	19,675	24,725
12	11,340	14,011	15,812	18,549	21,026	26,217
13	12,340	15,119	16,985	19,812	22,362	27,688
14	13,339	16,222	18,151	21,064	23,685	29,141
15	14,339	17,222	19,311	22,307	24,996	30,578
16	15,338	18,418	20,465	23,542	26,296	32,000
17	16,338	19,511	21,615	24,769	27,587	33,409
18	17,338	20,601	22,760	25,989	28,869	34,805
19	18,338	21,689	23,900	27,204	30,144	36,191
20	19,337	22,775	25,038	28,412	31,410	37,566
21	20,337	23,858	26,171	29,615	32,671	38,932
22	21,337	24,939	27,301	30,813	33,924	40,289
23	22,337	26,018	28,429	32,007	35,172	41,638
24	23,337	27,096	29,553	33,196	35,415	42,980
25	24,337	28,172	30,675	34,382	37,652	44,314
26	25,336	29,246	31,795	35,563	38,885	45,642
27	26,336	30,319	32,912	36,741	40,113	46,963
28	27,336	31,391	34,027	37,916	41,337	48,278
29	28,336	32,461	35,139	39,087	42,557	49,588
30	29,336	33,530	36,250	40,256	43,773	50,892

APPENDIX XVII

Z-Table

Z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
-3.9	0.00005	0.00005	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00003	0.00003
-3.8	0.00007	0.00007	0.00007	0.00006	0.00006	0.00006	0.00006	0.00005	0.00005	0.00005
-3.7	0.00011	0.00010	0.00010	0.00010	0.00009	0.00009	0.00008	0.00008	0.00008	0.00008
-3.6	0.00016	0.00015	0.00015	0.00014	0.00014	0.00013	0.00013	0.00012	0.00012	0.00012
-3.5	0.00023	0.00022	0.00022	0.00021	0.00020	0.00019	0.00019	0.00018	0.00017	0.00017
-3.4	0.00034	0.00032	0.00031	0.00030	0.00029	0.00028	0.00027	0.00026	0.00025	0.00025
-3.3	0.00048	0.00047	0.00045	0.00043	0.00042	0.00040	0.00039	0.00038	0.00036	0.00036
-3.2	0.00069	0.00066	0.00064	0.00062	0.00060	0.00058	0.00056	0.00054	0.00052	0.00052
-3.1	0.00097	0.00094	0.00090	0.00087	0.00084	0.00082	0.00079	0.00076	0.00074	0.00074
-3.0	0.00135	0.00131	0.00126	0.00122	0.00118	0.00114	0.00111	0.00107	0.00104	0.00104
-2.9	0.00187	0.00181	0.00175	0.00169	0.00164	0.00159	0.00154	0.00149	0.00144	0.00144
-2.8	0.00256	0.00248	0.00240	0.00233	0.00226	0.00219	0.00212	0.00205	0.00199	0.00199
-2.7	0.00347	0.00336	0.00326	0.00317	0.00307	0.00298	0.00289	0.00280	0.00272	0.00272
-2.6	0.00466	0.00453	0.00440	0.00427	0.00415	0.00402	0.00391	0.00379	0.00368	0.00368
-2.5	0.00621	0.00604	0.00587	0.00570	0.00554	0.00539	0.00523	0.00508	0.00494	0.00494
-2.4	0.00820	0.00798	0.00776	0.00755	0.00734	0.00714	0.00695	0.00676	0.00657	0.00657
-2.3	0.01071	0.01044	0.01017	0.00990	0.00964	0.00939	0.00914	0.00889	0.00866	0.00866
-2.2	0.01390	0.01355	0.01321	0.01287	0.01255	0.01222	0.01191	0.01160	0.01130	0.01130
-2.1	0.01786	0.01743	0.01700	0.01659	0.01618	0.01578	0.01539	0.01500	0.01463	0.01463
-2.0	0.02275	0.0222	0.02169	0.02118	0.02068	0.02018	0.01970	0.01923	0.01876	0.01876
-1.9	0.02872	0.02807	0.02743	0.02680	0.02619	0.02559	0.02500	0.02442	0.02385	0.02385
-1.8	0.03593	0.03515	0.03438	0.03362	0.03288	0.03216	0.03144	0.03074	0.03005	0.03005
-1.7	0.04457	0.04363	0.04272	0.04182	0.04093	0.04006	0.03920	0.03836	0.03754	0.03754
-1.6	0.05480	0.05370	0.05262	0.05155	0.05050	0.04947	0.04846	0.04746	0.04648	0.04648
-1.5	0.06681	0.06552	0.06426	0.06301	0.06178	0.06057	0.05938	0.05821	0.05706	0.05706
-1.4	0.08076	0.07927	0.07780	0.07636	0.07493	0.07353	0.07215	0.07078	0.06943	0.06943
-1.3	0.09680	0.09510	0.09342	0.09176	0.09012	0.08851	0.08691	0.08534	0.08379	0.08379
-1.2	0.11507	0.11314	0.11123	0.10935	0.10749	0.10565	0.10383	0.10204	0.08534	0.09888
-1.1	0.13567	0.13350	0.13136	0.12924	0.12714	0.12507	0.12302	0.12100	0.11900	0.11707
-1.0	0.15866	0.15625	0.15386	0.15151	0.14917	0.14686	0.14457	0.14231	0.11900	0.13707
-0.9	0.18406	0.18141	0.17879	0.17619	0.17361	0.17106	0.16853	0.16602	0.14007	0.16106
-0.8	0.21186	0.20879	0.20611	0.20327	0.20045	0.19766	0.19489	0.19215	0.16354	0.18606
-0.7	0.24196	0.23885	0.23576	0.23270	0.22965	0.22663	0.22363	0.22065	0.18943	0.21406
-0.6	0.27425	0.27093	0.26763	0.26435	0.26109	0.25785	0.25463	0.25143	0.21770	0.24306
-0.5	0.30854	0.30503	0.30153	0.29806	0.29460	0.29116	0.28774	0.28434	0.24825	0.27361
-0.4	0.34458	0.34090	0.33724	0.33360	0.32997	0.32636	0.32276	0.31918	0.28096	0.31206
-0.3	0.38209	0.37828	0.37448	0.37070	0.36693	0.36317	0.35942	0.35569	0.31561	0.34806

-0.2	0.42074	0.41683	0.41294	0.40905	0.40517	0.40517	0.39743	0.39358	0.38974	0.385
-0.1	0.46017	0.45620	0.45224	0.44428	0.44033	0.44038	0.4364	0.43251	0.42858	0.424
-0.0	0.5000	0.49601	0.49202	0.48803	0.48405	0.48006	0.47608	0.47210	0.46812	0.464

RESEARCH DOCUMENTATIONS



