# THE EFFECT OF SPELLING BEE GAME ON VOCABULARY MASTERY <br> AT XI GRADE STUDENTS OF SMAN 3 PADANGSIDIMPUAN 

## A THESIS

Submitted to the English Educational Department of State Islamic University of Syekh Ali Hasan Ahmad Addary as a Partial Fulfillment of the Requirement for the Gradute Degree of Education (S.Pd) in English

Department
Written by:
YUNI ANNISA HAFNI RAMBE Reg. No. 1820300063.

## ENGLISH EDUCATION DEPARTMENT

TARBIYAH AND TEACHER TRAINING FACULTY STATE ISLAMIC UNIVERSITY OF SYEKH ALI HASAN AHMAD ADDARY PADANGSIDIMPUAN

## $\frac{\pi}{2 \pi}$

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Written By:
YUNI ANNISA HAFNI RAMBE ${ }_{*}$
Reg. Numb: 1820300063


ENGLISH EDUCATION DEPARTMENT

## TARBIYAH AND TEACHER TRAINING FACULTY STATE ISLAMIC UNIVERSITY SYEKH ALI HASAN AHMAD ADDARY PADANGSIDIMPUAN

## LETTER OF AGREEMENT

Term : Munaqasyah
Item : 7 (seven) examplars

Padangsidimpuan, January 2023
a.n. Yuni Annisa Hafni Rambe

To: Dean
Tarbiyah and Teacher Training Faculty
In-
Padangsidimpuan
Assalamu'alaikum wr.wb.
After reading, studying and giving advice for necessary revision on the thesis belongs to Yuni Annisa Hafni Rambe, entitled "The Effect of Spelling Bee Game on Vocabulary Mastery at XI Grade Students of SMAN 3 Padangsidimpuan". We assumed that the thesis has been acceptable to complete the assignments and fulfill the requirements for graduate degree of Education (S.Pd) in English Education Department, Tarbiyah and Teacher Training Faculty in UIN Syekh Ali Hasan Ahmad Addary Padangsidimpuan.

Therefore, we hope that the thesis will soon be examined by the Thesis examiner team of English Education Department of Tarbiyah and Teacher Training Faculty UIN Syekh Ali Hasan Ahmad Addary Padangsidimpuan. Thank you.

Wassalam 'alaikumwr.wb.


The name who signed here:
Name : Yuni Annisa Hafni Rambe
Registration Number : 1820300063
Faculty/Department : Tarbiyah and Teacher Training Faculty/ TBI
The tittle of Thesis : The Effect of Spelling Bee Game on Vocabulary Mastery
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Registration Number : 1820300063
Faculty/Department : Tarbiyah and Teacher Training Faculty/TBI-1
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## LEGALIZATION

Thesis
:The Effect of Spelling Bee Game on Vocabulary Mastery at XI Grade Students of SMAN 3 Padangsidimpuan

Name : Yuni Annisa Hafni Rambe
Reg. Num : 1820300063
Faculty/ Department : Tarbiyah and Teacher Training Faculty/ TBI
The Thesis has been accepted as a partial fulfillment of the Requirement for Graduate Degree of Education (S.Pd.)


| Name | $:$ Yuni Annisa Hafni Rambe |
| :--- | :--- |
| Reg. Number | $: 1820300063$ |
| Faculty | $:$ Tarbiyah and Teacher Training Faculty |
| Department | $:$ English Education |
| Tittle of Thesis | $:$ The Effect of Spelling Bee Game on Vocabulary Mastery |
| at the XI grade students of SMA Negeri 3 |  |
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#### Abstract

This research focussed on the effect of spelling bee game on vocabulary mastery at XI grade students of SMA Negeri 3 Padangsidimpuan. The problem that faced by students in vocabulary mastery were : 1) The students are lack of vocabulary, 2) The students feel lazy and stressed to remember some vocabulary because the size of vocabulary is large, 3)The students are lack of motivation in learning vocabulary.

There are two formulations of the problem : does spelling bee game significantly affect on vocabulary mastery? how does spelling bee game significantly affect on vocabulary mastery at XI grade students of SMAN 3 Padangsidimpuan? The purpose of this research were to find out spelling bee game significantly affects on vocabulary mastery and how spelling bee game significantly affects on vocabulary mastery at XI grade students of SMAN 3 Padangsidimpuan.

This research used quantitative approach by using experimental method with true experimental design. The population were all the XI IS students of SMAN 3 Padangsidimpuan. The sample were XI-IS3 as experimental group consisted of 30 students and XI-IS4 as control group consisted of 29 students. The data were collected through pre-test and post-test in multiple choice, completion form, oral test and analyzed by using independent sample T-test.

The result of this research showed that mean score of experimental research was higher than mean score of control group after using spelling bee game. The mean score of experimental research after using spelling bee game was 81.07 and mean score of control research was 75.66 . It can be concluded that spelling bee game is very useful on vocabulary mastery. In addition, $t_{\text {count }}>t_{\text {table }}$ ( $2.654>2.000$ ). So, ha was accepted and h0 was rejected, it means spelling bee game significantly affects on vocabulary mastery at XI grade students of SMAN 3 Padangsidimpuan.


Key Words : Spelling Bee Game, Vocabulary

Nama

| NIM | $: 1820300063$ |
| :--- | :--- |
| Fakultas | $:$ Tarbiyah dan Ilmu Keguruan |
| Jurusan | $:$ Tadris Bahasa Inggris |
| Judul | $:$ Pengaruh Permainan Spelling Bee terhadap Penguasaan |

Kosakata pada Siswa kelas XI SMAN 3 Padangsidimpuan.


#### Abstract

ABSTRAK

Penelitian terfokus pada pengaruh permainan spelling bee terhadap penguasaan kosakata siswa kelas XI SMAN 3 Padangsidimpuan. Beberapa masalah yang dihadapi siswa dalam menguasai kosa kata diantaranya : 1) Kurangnya kosakata siswa, 2)Siswa malas dan stress menghapal kosakata yang jumlahnya banyak, 3)Kurangnya motivasi siswa mempelajari kosakata.

Ada 2 rumusan masalah dalam penelitian ini: apakah permainan spelling bee berpengaruh secara signifikan terhadap penguasaan kosakata siswa? bagaimana permainan spelling bee berpengaruh secara signifikan terhadap penguasaan kosakata siswa kelas XI SMAN 3 Padangsidimpuan? Penelitian ini bertujuan mengetahui apakah permainan spelling bee berpengaruh secara signifikan terhadap penguasaan kosakata siswa dan bagaimana permainan spelling bee berpengaruh secara signifikan terhadap penguasaan kosakata siswa kelas XI SMAN 3 Padangsidimpuan.

Penelitian ini menggunakan metode kuantitatif eksperimental dengan menggunakan rancangan eksperimen sungguhan. Populasinya adalah seluruh kelas XI IPS SMAN 3 Padangsidimpuan. Sampelnya adalah XI-IS3 sebagai kelompok eksperimen terdiri dari 30 siswa dan XI-IS4 sebagai kelas kontrol terdiri dari 29 siswa. Data dikumpulkan melalui pre-test dan post-test dalam bentuk multiple choice, completion,oral test dan dianalisis menggunakan rumus independent sample T-test.

Hasil penelitian menunjukkan bahwa hasil rata-rata skor kelompok eksperimen lebih tinggi daripada kelompok kontrol setelah menggunakan permanian spelling bee. Rata-rata skor kelompok eksperimen setelah menggunakan permainan spelling bee adalah 81.07 dan rata-rata skor kelompok kontrol adalah 75.66. Sehingga dapat diartikan bahwa permainan spelling bee sangat bermanfaat terhadap penguasaan kosakata siswa. Selain itu, $t_{\text {hitung }}>t_{\text {tabel }}$ (2.654>2.000). Jadi Ha diterima dan H0 ditolak, dapat disimpulkan bahwa permainan spelling bee berpengaruh secara signifikan terhadap penguasaan kosakata siswa kelas XI SMAN 3 Padangsidimpuan. Kata Kunci : Spelling Bee Game, Vocabulary.


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I realize that there are still many shortcomings in this thesis. Therefore, I would be grateful for correction to level up this thesis.

Padangsidimpuan, 15 September 2022
Researcher

Yuni Annisa Hafni Rambe
Reg. No. 1820300063

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## CHAPTER I

## INTRODUCTION

## A. The Background of the Problem

When learning a second language or a foreign language, vocabulary is very important. Students struggle to communicate their feelings and comprehend others by vocabulary. ${ }^{1}$ Vocabulary is the core of English study. People can speak, write and express something in English if vocabulary have been mastered. People may speak fluently. Vocabulary is mostly important or the main thing that people have to learn before going to English skill and competence. It can be said that vocabulary is a mother of English. People will feel confident to interpret English if they master the vocabulary. People will be easy to translate and interpret the meaning by mastering vocabulary.

Vocabulary has wide aspects that makes learning vocabulary is not easy, beside people know the vocabulary, they have to know the meaning of it. Teaching vocabulary's problem is the word given to students can not be understood by students although that word is often used in daily activity or the word can be understood by pupils but not important in their daily activity. ${ }^{2}$ So, in learning vocabulary, it needs to sort out which vocabulary is important or not in daily conversation.

Based on curriculum 2013 for senior high school about vocabulary, it stated that pupils must be able to master Vocabulary to make them able to

[^0]communicate interpersonally, functionally, transactionally about theirselves, their family, as well as human, things and animals, concrete and imaginative which closest to life and students activity at home, school, and community as well as related to other subject and the world work.

That is why vocabulary is important to be learned as a basic knowledge to master all skills in English. But, to learn vocabulary is sometimes not easy for students, the students think that vocabulary has wide aspect to be talked and it is really complicated. In learning, students are seldom to talk in English because of it.

Based on deep observation to the XI grade students while learning process. The researcher got the students are lack of vocabulary. It can be known when the teacher taught them. The teacher asked them to translate Indonesian to English, many students cannot answer what the teacher asked. Another example is while the students were asked to speak English, they mixed Indonesian and English, even they did not speak at all. It implies that they had a limited vocabulary and were unable to communicate their thoughts in English, because they did not know some vocabulary.

Next, based on interview to the XI grade students and English Teacher of SMAN 3 Padangsidimpuan Mr. Syarifuddin, the researcher got some interesting points. First, English teacher stated students lacked vocabulary and lacked confidence in their ability to communicate English while the teacher asked them to speak English. The students also mixed Indonesian and English
if they spoke. It is because they are lack of vocabulary. ${ }^{3}$ Second, the researcher interviewed the students, the students stated that is true that they are limited vocabulary which makes them uneasy speaking English. They also stated that they are lazy to memorize some vocabulary that was asked by the teacher. The teacher's continued employment of traditional or conventional methods of instruction can be determined. The teacher asked the students to memorize some vocabulary that was written on the whiteboard. The way the teacher taught made the students disinterested in what they are studying.

There are many factors affect vocabulary mastery, one of these is game. Students can improve their spoken and written English comprehension as well as their understanding of word and sentence structure in context by game. In addition, playing game makes a setting where learning a language is fun and satisfying, in addition to high motivation. ${ }^{4}$ Eroz as well as stated that games are giving high motivation because games are amusing and interesting. ${ }^{5}$ It means that if students are motivated in learning, the material may be easier to comprehend for the students. So that is why game is one of factors affecting vocabulary mastery.

The game that is necessary to be aplicated in vocabulary mastery is spelling bee game. A spelling bee is a competition help children improve their

[^1]spelling, increase their vocabulary and develop correct English usage. ${ }^{6}$ The purpose of spelling bee game is to help students in English skill for spelling, pronunciation, grammar, develop their confidence, as well as in improving vocabulary. ${ }^{7}$ Spelling bee game helps the students much in mastering vocabulary. Spelling bee is one of strategy in vocabulary mastery that is suitable for English learners. Spelling bee game gives an interesting way to master vocabulary so that the students are not bored while learning.

Actually, there are some previous researchers that conducted similar researches with this research. First, it was conducted by Audina who found a result that spelling bee game significantly affect on students' vocabulary mastery. ${ }^{8}$ Second, the previous research was conducted by Arumningsih who found that the implementation of spelling bee game significantly affect on students' vocabulary mastery. ${ }^{9}$ Both of these researches stated that spelling bee game gives significantly effect on vocabulary mastery.

Based on the explanation previously, it can be concluded that one of students' problem in English is vocabulary. So, the researcher tries to attract the students' interests by using game. The spelling bee game was chosen by the researcher because, according to some experts, it can improve students'

[^2]vocabulary mastery. Spelling bees help students learn how to spell, expand their vocabulary, and use English correctly

That is why the researcher would like to do research whether the spelling bee game is effective or not on students' vocabulary mastery.

## B. The Identification of the Problem

Based on background above, there were some problems in teachinglearning vocabulary in SMAN 3 Padangsidimpuan as followed:

1. The students were lack of vocabulary.
2. The students felt lazy and stressed to remember some vocabulary because the size of vocabulary is large to be talked.
3. The students were lack of motivation in learning vocabulary.
4. There was no variation of teaching that was done by the teachers, the teachers often used conventional strategy in teaching.

## C. The Limitation of the Problem

Based on identification of the problem above, the researcher limited the problem on fourth problem, English teacher must do innovation in vocabulary learning, one of the innovations can use spelling bee game that can make students are interested in learning vocabulary. Then the problem in vocabulary was solved by using spelling bee game. By using this game, researcher focuses the topic about "Job" and "Hobbies" based on students handbook.

## D. The Formulation of the Problem

According to the background, there are two formulations of the problem that weres talked in this research, they are:

1. Does spelling bee game affect on students' vocabulary mastery at the XI grade MIA of SMAN 3 Padangsidimpuan?
2. How does spelling bee game affect on students' vocabulary mastery at the XI grade MIA of SMAN 3 Padangsidimpuan?

## E. The Purposes of the Problem

It was deduced that the research had three aims based on the way it was put together above.

1. To know whether spelling bee game affects on students' vocabulary mastery at the XI grade MIA of SMAN 3 Padangsidimpuan or not.
2. To examine whether the spelling bee game affects on students' vocabulary mastery or not.

## F. The Significances of Research

The researcher expects this research may be helpful and valuable provided as follow:

1. Students

The students can attract and feel enjoyed by using this game to learn vocabulary. The pupils will not think that English is difficult to learn but English is fun for learning. The students will not feel depressed again to learn English because of using spelling bee game.
2. Teachers

Teachers can play this game to attract their students' interests. The teachers can use this game to make their lesson fun and not boring. The students are active in learning English. The teachers do not teach English strictly.
3. Readers

Hoping this research can open readers minded that English is not difficult but it is fun. Readers can also know this game and can share or use this game in their homes or playing with their friends.
4. Other Researchers

Next researchers who want to conduct similar researches can use this research as one of references of research.

## G. The Definition of Operational Variables

In this study, the following main variables need to be clarified as follow:

1. Spelling Bee Game (Variable X)

A spelling bee is a game that can motivate the students, can increase students pronunciation and also can affect students' vocabulary mastery.
2. Vocabulary Mastery (Variable Y)

The ability to understand words knowing, how to spell, and also knowing the word class are known as students' vocabulary mastery, indicates that the students are aware of vocabulary's significance, how to spell some words and can know the word classes that is in vocabulary.

## H. The Outline of the Thesis

The following are the specifics of each of the five chapters that make up this study's systematic division into subchapters:

The first chapter contains an introduction. The purpose of the research, its significance, and the definition of operational variables are discussed in this chapter, in addition to the general background of the thesis problem.The problems found in the field of research, the research questions, and the research's goal are discussed in this chapter.

The theoretical description, conceptual framework, and hypothesis are discussed in detail in chapter two. The theory of the spelling bee game's effect on vocabulary mastery and the temporary assumption of research are discussed in theoretical, which includes a description of vocabulary and the game.

It consists of research methodology in chapter three.The research design, the location and schedule of the study, the total population and sample, instruments, the method of data collection, and the final method for data analysis are discussed in this chapter.

Teaching vocabulary mastery in the pre-test, teaching vocabulary mastery in the post-test, hypothesis testing, discussion, and the findings of the research are all discussed in chapter four, which is about the results of the research.In addition, the conclusion and a suggestion are included in the final section of chapter five.

## CHAPTER II

## THEORITICAL DESCRIPTION

## A. Theoritical Descriptions

## 1. Vocabulary

## a. Definition of Vocabulary

Vocabulary is important element in English study, vocabulary is needed to master all skills in English. Vocabulary is an important component of language in learning a language, especially as basic of language so that is why vocabulary is important in education. ${ }^{1}$ The study of vocabulary focuses on word meanings. ${ }^{2}$ Both oral and written communication rely on vocabulary. ${ }^{3}$ Writing vocabulary is made up of words that can only be understood when they are written down or read aloud, the words in an oral vocabulary are those whose definitions are clear when they are spoken or read aloud. ${ }^{4}$ The vocabulary they have gathered at any one time includes all words, word pieces (such prefixes and suffixes), and lexical phrases (like set sequences of words like "The thing of it is..."). ${ }^{5}$ Vocabulary is language center and is neccesary to language learners. ${ }^{6}$ According to a different definition,

[^3]words that are utilized in listening as well as talking are referred to as expressive vocabulary and should be known in order to speak clearly (receptive vocabulary). Vocabulary is a representative collection of the words that exist in the English language, the vocabulary of an educated speaker of the language. ${ }^{7}$ Vocabulary is the vital part in learning of foreign language as the new word meaning is very often emphasized, whether in book or in classroom. It can be defined as language center in teaching and essential to a language learner.Many literatures stated vocabulary gives the basis for English skills mastery i.e., speaking, writing, reading, and listening. It is very difficult to talk in language without knowing or understanding size of vocabulary.

In conclusion, vocabulary is a collection some words that have meanings. Vocabulary is as basic thing in learning English. It can be said that vocabulary is main key to master English. Vocabulary is need to communicate both oral and print ways, to know the words to express our ideas.

## b. Types of Vocabulary

Vocabulary is divided into four types of vocabulary that must be known, they are : Speaking Vocabulary, Writing Vocabulary, Productive Vocabulary and Receptive Vocabulary.

[^4]1) Speaking vocabulary is interpreted as collection of words that we know the meanings when it is spoken or read orally. Oral vocabulary is used while it is spoken or read in oral.
2) Writing vocabulary is consisting of words that the meaning can be known when it is written or read in silent. Print vocabulary is found while writing something.
3) A collection of words that can be used in writing or speaking is called a productive vocabulary. The term can be common, wellknown, and used frequently. The word that students are able to comprehend, correctly pronounce, and use constructively in writing and speaking is called productive vocabulary. It involves both the ability to speak or write at the appropriate time and what is required for receptive vocabulary. Because students create the word to convey their thoughts to others, productive vocabulary is therefore an active process.
4) Receptive, or recognition, vocabulary is collection of words that someone assigns meaning while reading or listening. Students are less likely to use and are less familiar with these terms. A word in receptive vocabulary is one that students can understand and use in context but cannot produce. Students know this vocabulary when they encounter it in written text but do not use it in writing or speaking. ${ }^{8}$
[^5]Prototypically: learning a word from target language to source language. Productive vocabulary learning: learning to express a concept by means of the target language word. Prototypically: learning a word from source language to target language. ${ }^{9}$ In other word, learning receptive vocabulary involves understanding the meaning of words in a foreign language.

So, there are four types of vocabulary, they are speaking vocabulary, writing vocabulary, productive vocabulary, receptive vocabulary. Speaking vocabulary is found in oral, writing vocabulary is found in written expression, productive vocabulary is produced in writing or speaking skill and receptive vocabulary is got from listening or reading skill.

## c. Importance of Vocabulary

Vocabulary makes easier to understand spoken text or ideas conveyed by other person, makes easier to understand written text and also can be easier to share ideas. "Without grammar very little can be conveyed, without vocabulary nothing can be conveyed." ${ }^{10}$ Based on this statement, vocabulary is the main key of conveying ideas, opinions. People cannot share the ideas if people do not know the vocabulary, people will be such as stupid people that cannot understand anything. People know some vocabulary, it can help people to speak, to write,to read and to listen. It can be said that vocabulary is mother of English.

[^6]Another reason, in order to speed up pupils' reading comprehension, teachers are concerned with teaching vocabulary. ${ }^{11}$ It means that vocabulary has important role in mastering all English skill.

In second language writing, vocabulary is needed, then mothertongue word learning step foreign word, would be suited; a foreign word mother tongue guide might be more appropriate if only reading skills are required. Prasetya and Pusparini said that there are many importance of vocabulary as below :

1) Vocabulary is the key to communication For most learners, the ultimate goal of learning is to be able to communicate in a new language. If you don't want to learn non-verbal skills, mastering vocabulary is not only important, it's also important in a foreign language environment. There's a reason we tend to orientate toward dictionaries, not grammar books.
2) Strong vocabulary helps you develop other skills. We shall pay attention to all other aspects of language learning, such as: the news of improvement, increased vocabulary with an immediate and positive impact on your capacity to improve your overall language skills.
3) The more words you know, the more you will do vocabulary learns through focused and conscious study, but more generally indirectly through listening and reading, using context clues to figure out what it means. ${ }^{12}$

Learning vocabulary is really important thing to have a communication each other, it helps to share ideas. Vocabulary also can help develop students's skill, such as writing, speaking, reading and listenin. The more learning vocabulary the more knowledge will be gotten.

[^7]
## d. Techniques of Teaching Vocabulary

Teaching vocabulary essential for success in the academy may be tedious and somewhat boring because, unlike the fun activities for developing conversational fluency. ${ }^{13}$ There are two approaches in teaching vocabulary:

1) Explicit

Explicit is traditional approaches in teaching vocabulary that focused on study vocabulary explicitly. Some sources illustrate vocabulary exercises kinds, including teachers' reference books. ${ }^{14}$ So, explicit approach is teaching vocabulary that teacher teaches the students based on teacher handbook.
2) Incidental Learning Approach

An incidental learning approach must ensure that students can acquire as much information as possible. The learners can get the knowledge by learning in source language country that is learned. ${ }^{15}$ Incidental learning occurs accidentally or scientifically where the students can get knowledge from daily activity.

While the techniques of teaching vocabulary as below :
a) Using Objects

Realia, visual aids, and demonstration are used as teaching tools in this method. Because it is simple for students to remember the

[^8]object visually, it can assist students in better recalling vocabulary. ${ }^{16}$ So, the teacher can show some things to students directly and students can be easy to memorize vocabulary that is shown.
b) Drawing

On the whiteboard or on flash cards, objects can be drawn. It may facilitate young learners' understanding of the core ideas they have acquired in the classroom. ${ }^{17}$ The teacher can draw something in whiteboard and students guess it.
c) Using Illustrations and Pictures

Pictures help students learn new words and connect their prior knowledge to a new story. The students can know some words by looking some pictures. It can help the students to learn vocabulary in attractive way. ${ }^{18}$ This technique is used by showing the picture to students.
d) Contrast

The students are instructed to hunt for the antonym when the teacher presents a word. This way can help the students in mastering words. ${ }^{19}$ This technique can increase students' reasoning as well as vocabulary.
e) Enumeration

[^9]This technique can be used by teachers, who ask students to make a list of vocabulary, such as listing the things in the class. ${ }^{20}$ This technique asks the students to make a list of vocabulary in their environment.
f) Mime, Expressions and Gestures

Mime or gesture is neccesary to emphasize vocabulary. The teacher gives some words and instructs the pupils to mimic the word being used and other students must guess what the word is mimed. ${ }^{21}$ So, in this case a student is asked to mime and others guess the vocabulary.

## g) Eliciting

Eliciting is a technique that is used by students. The students are given list of vocabulary and are asked to memorize that vocabulary. This is a simple way that is often used by students. But this technique has been left by teacher. ${ }^{22}$ In this technique, the students are asked to memorize a list of vocabulary given.

There are many ways to teach vocabulary to solve the problem that stated learning vocabulary is boring activity. Teaching vocabulary will be interesting if using techniques. It can be concluded that technique is neccessary in teaching vocabulary to students.

[^10]
## e. Problems in Learning Vocabulary

In learning vocabulary, the students often found the problem in learning that make them less of vocabulary. The problem in learning vocabulary is divided into four problems, that is described as below:

1) The number of words that is needed to be learnt so as to be understood and and to be utilized both orally and in writing with proficiency. The vocabulary size is really large, the students complain that learning vocabulary is boring. The learners have to memorize many vocabulary.
2) The interspace between children's word knowledge levels. Levels of word knowledge are different. Some of the learners are rich of vocabulary but some of the others are lack of vocabulary.
3) Before kids ever start school, there is a difference in word knowledge levels. Many students have different level of word knowledge. The students are divided into beginner, intermediate and advanced level. The teacher has to be able to make a balance between beginner, intermediate and advanced level.
4) Children are not taught word-learning strategies or how to appreciate words in traditional vocabulary instruction. Traditional vocabulary instruction does not give the variations of learning that makes the students are bored to learn with the same way day by day. ${ }^{23}$

The students finds the obstacles in learning vocabulary that makes students feel bored to learning vocabulary. The problem that faced by students in learning vocabulary are the number of vocabulary that is really large makes the students feel difficult to memorize vocabulary, teacher has no variation in learning as well as.

[^11]
## f. Vocabulary Aspects

Vocabulary has some problems in learning, one of them is vocabulary has wide aspects, here are some vocabulary aspects as follows :

1) Meaning

In general, it can be stated that meaning is basically a form of cognitive knowledge contained in language, which is contained and structured in and by the language system, which is almost the same by speakers in general and reasonable communication activities. While the teacher gives the task, a teacher must clarify how a word can have more than one meaning and how it can be utilized in various contexts. The students are expected to know the meaning. ${ }^{24}$ Meaning can refer to what word forms signal, for what the word can be used. ${ }^{25}$ It can be concluded that meaning is something to what refers to, such as signal of word.
2) Spelling

The ability to correctly spell words is called spelling. Attempting to spell a word correctly included. It is important because it connects letters and sounds and helps with reading. Spelling is really important in mastering English skill, especially for writing. Along with understanding the meaning, the pupils must also

[^12]be able to correctly spell the word. ${ }^{26}$ Spelling refers to how the word written. ${ }^{27}$ Spelling refers to how the word produced, what letters the word written.

## 3) Pronunciation

The way the words of a language are pronounced the manner in which they are pronounced Words can be pronounced in many different ways. Pronunciation is the way in which a particular person pronounces the words of language. The expectation is that the pupils can pronounce the word in English. ${ }^{28}$ The term "pronunciation" describes how a word is said and how it sounds. ${ }^{29}$ Pronunciation is opposite of spelling, where pronunciation is produced by oral.
4) Word Classes

Word classes are categories of word, there are eight categories into which words can be divided into:
a) Nouns
b) Pronoun
c) Verbs
d) Adjectives
e) Adverbs
f) Prepositions
g) Conjunctions

[^13]h) Determiner ${ }^{30}$

These categories can help students in classifying the vocabulary so that they will be easy to memorize it.

## 5) Word Use

The way a word, phrase, or idea is used in a language or variety of languages is known as word usage. A word is created to be used to express something in communication. ${ }^{31}$ Word is the means by which a word, expression, or idea is utilized in a language.

Those are many aspects that must be known in learning vocabulary. Vocabulary is categorized to some aspects to help the learners in classify the word and also make learners easier to memorize the word after it is classified.

## g. Principles of Teaching Vocabulary

Linse contended that students see vocabulary as vital language advancing part and one of the troubles in arranging the vocabulary part of a course is ensuring that it doesn't overpower other fundamental pieces of the course.

1) Emphasize Both Direct and Indirect Teaching

Direct instruction refers to teaching the words and their meaning. Indirect instruction refers to helping children learn appropriate strategies so they can figure out the meaning of words on their own.
2) Teaching Vocabulary before A New Activity

When the vocabulary words are taught before a new activity, students benefit in two ways. Firts, they are better able to comprehend the activity. Second, teaching vocabulary words

[^14]in advance makes it more likely the students will actually acquire the target vocabulary words.
3) Teach How to Use Context Clues Approprately

Students can benefit from learning how to use context clues and guessing the meaning from the text.
4) Present Multiple Exposures to New Vocabulary Items

Young learners make educational gains when they are exposed to vocabulary items repeatedly in rich context.
5) Give Opportunities for Deep Processing od Vocabulary Items

Deep processing means working with information at a high cognitive and personal level.
6) Teach Students to Use Dictionary

The use of dictionaries as a tool for EFL and ESL instruction has come back into style.
7) Have Students Keep Vocabulary Notebooks

Vocabulary notebooks provide students with opportunities to develop a variety of vocabulary acquisition strategies and also help students have more control over their learning. ${ }^{32}$

In teaching vocabulary, it is needed a guide to help students in emphasizing the knowledge in knowing a word. The principles can be a way for students in memorizing word. The principles above can be practiced in teaching-learning process.

## 2. Spelling Bee Game

## a. Definition of Game

Vocabulary can be mastered by some affects, one of them is a game. Games are some activities consist of some rules, have a goal, and fun. ${ }^{33}$ Games have two types, they are competitive game where player or team compete to be a winner or competing to get a goal and

[^15]cooperative game where player or team work together to get a goal. ${ }^{34}$ Competitive games are games can be used to have educational games more attractive to pupils, but it can be a method to help teaching soft skills of students and boost social and personal development. ${ }^{35}$ Game is one of some ways which is affective to teach vocabulary. By applying games, it create more active students and material will be understood well in the class. There are some reason of writing this thesis. First, students do not feel interesting in learning vocabulary. Second, the students are found as lack of vocabulary sometimes students feel confused to express something. And the last reason is teacher always used bored technique to teach vocabulary, thus, the students find learning English to be boring.

Games assist the teacher in establishing contexts where language is relevant and beneficial. Game-based learning can be engaging and enjoyable. Game is a technique that is interesting for learners. Students also enjoy and understand if games used to learn english. The importance Game in teaching vocabulary according to Domnus in Derakhshan and Khair while game and education are being combined, it will be educative and education environment will be entertaining. It can be said that game and vocabulary are being combined will have some benefits in learning process. Students enjoy in learning vocabulary,

[^16]students are very enthusiastic and attracted students' motivation in learning vocabulary.

## b. Definition of Spelling Bee Game

One of game that can affect students' vocabulary mastery is a spelling bee game. Spelling refers to the way we structure words visually (using letters of the alphabet). ${ }^{36}$ Written English consists of twenty six letters and spoken English consist of forty sounds. ${ }^{37}$ Spelling is important in writing and as well as in pronunciation in speaking.

When elementary school students compete in a spelling bee, they are required to spell words in front of an audience. ${ }^{38}$ The spelling bee is a type of game in which participants are asked to spell words and is played at all levels, from the local to the national level. A spelling competition aims to assist children in developing correct English usage, vocabulary, and spelling. The spelling bee game helps students improve their spelling, pronunciation, and grammar, as well as their confidence and vocabulary in English. ${ }^{39}$ Spelling bee game has an important role on vovabulary mastery, pronunciation, spelling grammar and students' confidence.

A spelling bee game is used to specifically improve students' vocabulary mastery in the learning process. Spelling Bee is a form of

[^17]word-spelling competition that can be played at any level, from individual schools to the national level. It can describe the vocabulary mastery abilities of students. Spelling Bee is said to help students improve their vocabulary and officially boost their confidence in speaking English. ${ }^{40}$ Spelling bee can build students confidence and then, students will be easy to get vocabulary knowledge.

The spelling bee concept originated in the United States, where it has enjoyed widespread popularity for a number of years. Currently, Spelling Bee competitions are also held in Indonesia, Australia, New Zealand, Canada, and the United Kingdom. It has grown in global popularity over the past few years and is now taught in schools all over the world. Spelling bee is being played by important actors they are the participants, the judges and the pronuncers.

## c. Procedures of Spelling Bee Game

In playing a game, it is need procedures to play it. According to Basingtoke, there are some steps of spelling bee game:

1) Spelling Bees are conducted orally and are contests of accuracy rather than speed. In order to be sure of the word they are going to spell, participants should be given the opportunity to ask for repetitions (up to three times), sample sentences, and the meaning of the word itself. This will help participants with difficult homophones in English (words that sound the same but are spelled differently, e.g. flour / flower), and give them the best possible chance of spelling their words correctly.
2) Participants pick a numbered ball from a container. The pronouncer then reads the word from a corresponding wordlist.The pronouncer calls out the word twice before the participant begins attempting to spell it.

[^18]3) Participants must repeat the word before and after spelling it, e.g. "flower, f-l-o-w-e-r, flower".
4) The pronouncer must respond to the participant's request for a definition, e.g. flower: the colored part of a plant; flour: a soft powder used in cooking, or a sample sentence, e.g. flower: He gave her a beautiful flower; flour: The cake is made with butter and flour.
5) If participants misspell a word they are eliminated.
6) If the participants that have been eliminated, or someone from the audience, starts whispering the answers, nodding, or shaking their heads, they must leave immediately.
7) In order to ensure all participants have enough time to complete rounds, participants should be given one minute to spell the word correctly. ${ }^{41}$

These steps are used to play this game, the team who can spell well the vocabulary will be given 5 points and who cannot spell it will not be given points.

## d. Advantages and Disadvantages of Games

Every game has advantages and disadvantages. Based on Wright, game has many advantages in teaching and learning process, they are :

1) Helping learners to experience language rather than merely study it.The learners understand the language more or we can say the learners can deep the language more than using conventional technique that is really boring.
2) Help teachers to create contexts in which the language is useful and meaningful. The teacher can be more creative to create a game. The teacher will bring the learning process in a fun way.
3) Games involve the emotions and the meaning of the language is thus more vividly experienced. The students feel spirit while learning, they do not feel bored and follow the class willingness. ${ }^{42}$

Goscu also states there are some advantages of games, they are as
follows:

[^19]1) Games can improve students'understanding of written and spoken English.
2) Games can help learners learn words and structures in a context using correct pronunciation and spelling.
3) Games increase motivation and desire for self-improvement.
4) Challenge and competition are key factors for any game and students pay more attention to completing the task.
5) Interdisciplinary approach. Students use knowledge from other classes, too.
6) Games develop students' ability to observe.
7) Games have clear rules and objectives.
8) Games develop critical thinking, problem solving, and imagination.
9) Games offer new and dynamic forms of teaching/ practicing which replace the traditional worksheets.
10) Games are adaptable for different levels of knowledge.
11) Educational games are easy to understand and use. ${ }^{43}$

While the advantages of spelling bee are following as below : ${ }^{44}$

1) Spelling Bee competitions help children improve their spelling. Spelling bee will train students' spelling skills on a regular basis. Their spelling ability will increase over time.
2) Increase students' vocabulary, while the students play spelling bee, the students also can increase their vocabulary. The students can get new word from what they spell.
3) Develop correct English usage, the students also can know the meaning of the words and the use of the words what they spell.
4) Children's self-confidence is also built and, more important, they are full of fun. A spelling bee is interesting game to be played, the

[^20]students will be helped to build their self confidence. They will be trained to be confident to speak or write. ${ }^{45}$

The disadvantages of game, the class cannot be condusive, the class will be noisy. Students will feel enthusiastic in learning which makes the class not conducive. Students will sometimes scream during the game being played. The teacher only has a limited amount of time to explain the material and introduce new vocabulary when using this game to teach vocabulary. Therefore, the teacher no longer has time to provide additional explanations or assist students in memorizing the new vocabulary. ${ }^{46}$ So, it can disturb teaching-learning process if using a game.

Based on long explanation above, game has many advantages but also has disadvantages. However, game has more advantages than disadvantages, so game can be applied as one of ways in teaching vocabulary in attractive way. The students feel interested in learning and they get the knowledge.

## 3. Teaching Vocabulary

## a. Teaching Vocabulary by Using Conventional technique

## 1) Definition of Conventional Technique

Conventional teachings are straditional way which are used by the teacher in teaching and learning process. According to Deriden "conventional technique is the strategy or the way that usually used

[^21]by the teacher to teach the text to students". ${ }^{47}$ A stated by Hudson "conventional technique is the strategy used by the teacher based on mutual agreement in a school" ${ }^{48}$ So, conventional methods are used in the traditional teaching and learning process, in which lectures are given by teachers.

## 2) Procedure of Conventional Technique

There are a few steps to making conventional technique.
According to Andrean, there are some steps those are:
a) Preparation
(1) To formulate the objectives to be achieved
(2) Determine the main points of the material will be explain
(3) Preparing tools
b) Implementation phase
(1) Steps opening
i) Make sure that students understand the objectives to be achieved.
ii) Do apersepsi step, that is step linking the subject matter and the subject matter that will be delivered
(2) Steps presentation
i) Maintain continuous eye contact with students.
ii) The use of communicative language easily digestible students.
iii) Present learning materials systematic, no bounding to be easily captured by the students.
iv) Respond to immediate students responses.

Keep the class conducive and exciting to learn
(3) Steps ending or closing
ii) Guide students to draw conclusion or summarize the subject matter.
iii)Stimulate students to be able to respond or provide some sort of review of the learning materials that have been submitted.

[^22]iv) Conduct an evaluation to determine the students ability to master the learning material that had just delivered. ${ }^{49}$

On the basis of the preceding explanation, the conventional technique consists of two steps: preparations, in which the instructor will introduce the class by outlining the desired outcomes, identifying the primary points of the material, and preparing the tool. The second step is the implementation step. There are three steps in implementation phase such as steps opening, steps presentation and steps ending or closing.

## 3) Advantages and Disadvantages of Conventional Technique

The traditional teaching method has several benefits. Dodik claims that the benefits of traditional instruction include:
a) Teacher easily master classes.
b) Easy to organize the seating/class.
c) Can be followed by a large number of students.
d) Easy to prepare and implement them.
e) Master's easy to explain the lesson well.
f) More economical in terms of time.
g) Provide opportunities for teachers to use their experience, knowledge and wisdom.
h) Can use comprehensive teaching materials.
i) Helping students to hear accurately.
j) If used correctly it will be able to stimulate and increase student interest in the academic field.
k) Can strengthen students' vocabulary and learning from some other source. ${ }^{50}$

[^23]In conclusion, the advantages of conventional teaching methods include the teacher's ability to manage the class, the students' sole focus on the teacher, and the students' improved ability to accurately listen.

Beside advantages, conventional techniques have some disadvantages. Andrean said, the disadvantages of conventional technique are:
a) Material held by students from the explanations will be limited to controlled teachers.
b) Conventional are not accompanied by demonstrations could lead to the occurrence of verbal.
c) Teachers who lack the ability to speak good, conventional often regarded as tedious method.
d) Through conventional, it is very difficult to know whether all the students already understand what is being describe or not. ${ }^{51}$

On the basis of the explanation, some of the drawbacks of the conventional method are that it is easier for students to become bored in class, that it makes students lazy, and that it is quite challenging to tell whether or not every student has grasped the material being described.

## b. Teaching Vocabulary by Using Spelling Bee Game

In teaching there are three procedures of teaching that must be completely. They are pre-teaching, during, and after teaching. Preteaching is a method that prepares students for a lesson by teaching them concepts, skills, or vocabulary in advance. The core of teaching

[^24]and learning is while-teaching, in which the instructor explains the material in depth through a series of steps. They are investigation, clarification, and validation. After the lesson, you go over them again during post-teaching.

Table 2.1
Teaching Vocabulary by Using Spelling Bee Game

| Teacher Activity | Procedures | Students activity |
| :---: | :---: | :---: |
| A. Pre-Teaching <br> 1. The teacher welcomes everyone to class and instructs them to pray before learning. |  | 1. Students pay attention to the instructor. <br> 2. Before learning, students welcome the teacher and say a prayer. |
| 2. The students attendance list is checked by teacher. |  | 1. Students pay attention to the instructor. <br> 2. Students state the attendance by saying present |
| 3. The last material is asked by teacher and relate it with the new material. |  | 1. Students respond to the teacher's inquiries. |
| 4. The new material is told by teacher. |  | 1. Students pay close attention when the teacher speaks. <br> 2. Students include some teacherwritten notes. |
| Teacher Activity | Procedures | Students activity |


| B. While-teaching <br> 1. The teacher introduces the topic about Job and Hobbies to the students. | 1. Introduce the selected topic to students. | 1. The class listens to the instructor. <br> 2. Students remind the topic of the material. |
| :---: | :---: | :---: |
| 2. The teacher asks the question related to topic. | 2. Ask students to brainstorm about the text. | 1. Students think about the answer. <br> 2. Students respond to the teacher's query. |
| 3. The teacher make a group to play spelling bee game and explains how to play, how the rules. |  | 1. Students are students into some group. <br> 2. Students listen to procedures of the game. |
| 1. The teacher starts to uses spelling bee game. <br> 2. The teacher pronounce the word that is taken by the student. The teacher pronunce twice. | 3. Participants pick a numbered ball from a container. The pronouncer then reads the word from a corresponding wordlist. The pronouncer calls out the word twice before the participant begins attempting to spell it. | 1. Leader of group takes the numbered ball from container. 2.The students listen carefully to what the teacher pronunce. <br> 3.Each group discuss what the word and how to spell. <br> 4.After discussing, the group rise their hands if they want to answer. |
| 3. Students are instructed to say the word both before and after it has been spelled. | 4. Participants must repeat the word before and after spelling it, e.g. "flower, f-l-o-w-e-r, flower". | 5. The students must spell the word before and after spelling. |


| Teacher Activity | Procedures | Students Activity |
| :---: | :---: | :---: |
| 4. The students are given clues or gives the definition of word by teacher. | 5. The pronouncer must respond to the participant's request for a definition, e.g. flower: the colored part of a plant; flour: a soft powder used in cooking, or a sample sentence, e.g. flower: He gave her a beautiful flower; flour: The cake is made with butter and flour. | 6. The students ask the definition or clues if they need. |
| 5. The teacher eliminates the group who misspells. | 6. If participants misspell a word they are eliminated. | 7. The students answer the question and if they ar wrong, they are eliminated. |
| 7. The teacher limits the time of answering. | 7. The students are given time 1 minutes to spell the right answer. | 8. The students must answer in a minute. |
| C. Post-Teaching <br> 1. The students are asked teacher about their understanding about the material. |  | 1. The teacher's question is anwered by students and they tell their problem. |
| 2. The lesson might be concluded by teacher or together with the students. |  | 1. Observe what the instructor is saying. <br> 2. As the instructor wraps up the lesson, the students create a summary.. |
| 3. The teachinglearning activity is closed by teacher. |  | 1. Students give the greeting to the teacher. |

## 2. The Review of the Related Findings

The researcher has discovered several related studies about the spelling bee game. In light of this, the researcher develops five theses on the impact of the spelling bee game on students' vocabulary retention.

The first researcher was conducted by Sari who examined the effect of spelling bee game on students' vocabulary mastery. ${ }^{52}$ The findings of her study indicated that teaching vocabulary through spelling bee game could help students in improving their vocabulary building. The students got better score after the treatment of spelling bee game. She stated that the using of spelling bee game gave very good improvement on students' vocabulary mastery and as well as students' pronunciation from post-test and pre-test.

The second researcher was conducted by Haeri who talked the implementation of spelling bee game to improve the students' vocabulary mastery. ${ }^{53}$ The findings of the research was the result of using spelling bee game on students' vocabulary showed significant improvement from pre-test and post-test. It was proved by the score before and after giving the treatment.

The third researcher was conducted by Wafaa talking teaching students vocabulary by using spelling bee game of the second year students at SMPN 3 Sungguminasi Gowa. ${ }^{54}$ The findings of the research was the result the

[^25]students' score in vocabulary test before applying spelling bee game is low different with the students applying spelling bee game. The score in post-test is higher than pre-test.

The fourth researcher was conducted by Wahidah talking the effectiveness of Spelling bee game on students' vocabulary mastery. ${ }^{55}$ The findings of the research was using spelling bee game is more effective on students' vocabulary mastery.

According to those related findings, it can be concluded that this research has same topic that is attracting to be talked. But, there are some differences of this research with the previous researches. The first, this research used random sampling while other researches used purposive sampling, cluster sampling. Second, the indicators from previous studies are slightly different from this research. Previous research had indicators where students are expected to be able to spell words, pronunciation. While this research is added an indicator where students are able to interpret words. Third, design of this research will use true experimental research, while previous researches used quasi experimental.

## 3. The Conceptual Frameworks

Vocabulary is a basic knowledge to master all skills in English. If the people want to master English, they have to know a basic knowledge namely vocabulary. People are not able to speak, to write, to listen, to read English because they are lack of vocabulary. Of course that is a big problem that has

[^26]to be solved if people want to master English. People as well as are difficult in remembering a new vocabulary, easy to feel bored in memorizing vocabulary with traditional or conventional method. They are some problems in learning vocabulary.

To solve these problems, it is needed a method. One of ways that can be aplicated is a game. Game can make people interested in learning English. It can be said that game is a fun way to learn. In this case, the researcher chooses spelling bee game as method to master vocabulary. Spelling bee game is a game that can be used to master vocabulary based on some experts. Not only mastering the vocabulary, but as well as pronunciation.

The researcher used spelling bee game to know if spelling bee game gave a significant effect on students' vocabulary mastery. To test the hypothesis, the researcher need some steps. First, the researcher gave a pretest to students to know their knowledge. Then dividing them into experimental class by using spelling bee game and control class with conventional strategy. After giving a treatment, the students were given a postest to compare students' vocabulary mastery by using spelling bee game and conventional strategy.

The conceptual framework that was done is as below:


## 4. The Hypothesis

The researcher formulates the hypothesis of the research is started as follows:

1. Alternative hypothesis $\left(\mathrm{H}_{\mathrm{a}}\right)$ : there is a significant effect on students' vocabulary mastery by using spelling bee game.
2. Null Hypothesis $\left(\mathrm{H}_{0}\right)$ : there is no significant effect on students' vocabulary mastery by using spelling bee game.

## CHAPTER III

## Research Methodology

## A. The Place and Time of Research

The research place was in SMA Negeri 3 Padangsidimpuan. The location is in Padang Matinggi, SMA III Street, Padang Matinggi, Southeast Padangsidimpuan, province of North Sumatera. It started on March 2022 to August 2022.

## B. The Research Design

The research kind was quantitative research with experimental method. True experimental was used in this research with pretest-post test control group design. Both classes conducted pre-test and post-test and only the experimental class was given treatment. It can be illustrated in the table below:

Tabel 3.1
Pretest-Posttest Control Group Design

| Class | Pre-Test | Treatment | Post- <br> Test |
| :---: | :---: | :---: | :---: |
| Experimental Class | $\sqrt{2}$ | $\sqrt{ }$ | $\sqrt{ }$ |
| Control Class | $\sqrt{2}$ | $\times$ | $\sqrt{ }$ |

Source : Sugiyono, Metode Penelitian Kuantitatif, da R\&D)

## C. The Population and Sample

## 1. Population

The research was done in the eleventh Grade IS students of SMA Negeri 3 Padangsidimpuan. There are 4 classes of IS with 123 students was as population. Let us look at the table below:

Table 3.2
The Population of the eleventh Grade SMA Negeri 3 Padangsidimpuan

| No | Class | Total Students |
| :---: | :---: | :---: |
| 1. | XI IS 1 | 32 |
| 2. | XI IS 2 | 32 |
| 3. | XI IS 3 | 30 |
| 4. | XI IS 4 | 29 |
| Total |  | 123 |

## 2. Sample

Sampling is the process of choosing a group of people for a research such that they accurately reflect the wider group from which they were chosen. "A sample comprises individuals, items, or events selected from a larger group referred to as population". ${ }^{1}$ This study's population was sufficiently large and homogeneous to require classification into classes or groups. In this study, the random sampling technique was used to select the sample at random. The researcher made like lottery system. First, provided three pieces of small paper contained of the name of three classes, then rolled the paper and put the paper into a box. After that, the box was shaken. The researcher then took the first paper for the experimental class and took the second paper for the control class at last.

[^27]Table 3.3 Samples of the Reseach

| Experimental Class (XI IS 3) | 30 Students |
| :---: | :---: |
| Control Class ( XI IS 4) | 29 Students |
| Total | 59 Students |

## D. The Instrument of the Collecting Data

Instrument is the most neccesary one in a research. A test served as the research's instrument. The test was a written test. There were two tests in this research. They were pre-test and post-test. The researcher gave a test about vocabulary that was related to "Job" and "hobbies". The students were given written test.

1. Written Test

In the written test, it was given 25 questions consisted of 20 multiple choice and 5 completion test. The weight in each question is considered based on the level of difficulty of the question. ${ }^{2}$ So that is why, for completion was given 6 points for true answer and for multiple choice 2 points, because the completion is more difficult than multiple choice.

[^28]Table 3.4
Scoring of the test

| No. | Indicators | Types of <br> test | Items | Number <br> of <br> Items | Score | Total <br> Score |
| :---: | :--- | :--- | :---: | :---: | :---: | :---: |
| 1 | Spelling | Multiple <br> Choice | 10 | $1-10$ | 3 | 30 |
|  | Completion | 5 | $25-30$ | 5 | 25 |  |
| 2 | Meaning of <br> words | Multiple <br> Choice | 10 | $11-20$ | 3 | 30 |
| 2 | Word Class | Multiple <br> Choice | 5 | $21-25$ | 3 | 15 |

Final score: $\frac{\text { students score }}{\text { maximum score }} \times 100$
From the table above, the maximum score was 100 and the final score was examined by formula. The final score was gotten by students' score was divided by maximum score times 100 . For example the student got 60 , the maximum score was 100 . So, final score was $60 / 100$ times 100 , the final score that was gotten by student is 60 . To know the criteria of ability, it could be seen in the table below:

Table 3.5

## Scoring scale

| No. | Criteria | Score |
| :---: | :--- | :---: |
| 1 | Very good (A) | $86-100$ |
| 2 | Good (B) | $71-85$ |
| 3 | Average (C) | $56-70$ |
| 4 | Poor (D) | $\leq 55 .^{3}$ |

[^29]The criteria of students' ability can be classifed into four criterias. Score 86-100 was classified into very good criteria, score 71-85 was classified into good criteria, score $56-70$ was classified into average criterian and score $\leq 50$ was poor criteria.

## E. The Validity and Realibility Instrument

## 1. Validity Instrument

In this study, to determine whether or not the test questions was valid using SPSS v. 24 using Person Correlation test. The result of the calculation of correlation of correlation coefficient, the question can be declared valid if $\mathrm{r}_{\mathrm{xy}}>\mathrm{r}_{\text {table }}$, with a significant level of $5 \%$.

The criteria of test validation as below :

1. If the Pearson Correlation value $>\mathrm{r}_{\text {table }}$, the test is valid.
2. If the Pearson Correlation value $<\mathrm{r}_{\text {table }}$, the test is not valid.

Based on the provisions in SPSS v.24, the significance value of 0.05 the instrument is said to be valid if the person correlation has at least 1 star (*). Based on the analysis of the pre-test validity test which was carried out using the SPSS v. 24 with a value $\mathrm{r}_{\text {table }}=0.482$, there were 30 questions that were valid (the calculation result can be seen in appendix 7). From the table above, it can be seen that 30 questions that met the criteria were valid, so the researcher used 30 questions because they have been tested.

Then, post-test also has been validated, it has been tested to students and counted by using SPSS v. 24.Based on the provisions in SPSS
v .24 , the significance value of 0.05 the instrument is said to be valid if the person correlation has at least $1 \mathrm{star}\left({ }^{*}\right)$. Based on the analysis of the pretest validity test which was carried out using the SPSS v. 24 with a value $\mathrm{r}_{\text {table }}=0.482$, there were 30 questions that were valid (the calculation result can be seen in appendix 8)

## 2. Realibility Instrument

Realibility instrument was tested by using Cronbach's Alpha, it was because the result of the calculation was more accurate and can approach the actual result. Testing the realibility of test devices in the form of multiple choice and completion using Cronbach's Alpha > 0.60 (high reliable). If the value of Cronbach's Alpha $<0.60$, the test items are not realiable.

Based on the result of the pretest realibility test using SPSS v25, the Cronbach's Alpha ( $\mathrm{r}_{\text {count }}$ ) value of 0.679 was obtained. So it can be concluded that Cronbach's Alpha $>0.60$ ( $0.679>0.60$ ). It can be proven that the test of the pre-test realiable instrument is very high category.

Based on the results of the post-test realibility test using SPSS V.24, the Cronbach's Alpha ( $\mathrm{r}_{\text {count }}$ ) value of 0.746 was obtained. So it can be concluded that Cronbach's Alpha > 0.60 ( $0.746>0.60$ ), it can be proven that the post test realiable instrument test very high category (the calculation can be seen in appendix 9).

## F. The Procedures of The Research

To get the data from the students, it was given the test and treatment to see the effect of the technique is given. Procedures of the research are:

1. Pre-test

Pre-test was a test that was conducted before doing the treatment. Pre-test was given to experimental class and control class. Pre-test means to see the students basic knowledge before applying the spelling bee game. The researcher took some procedures for pre-test. The steps can be see below:
a) Some questions are created that consisted of vocabulary in the house. b) Then, the paper of the test and answer sheets are shared to both classes, experimental and control class.
c) Next, Explaining the way to answer the test.
d) After that, the students were given time to answer.
e) The students' answer are colected.
f) The last, the answer sheets are checked and the students score are counted.
2. Treatment

Treatment was where the researcher did the technique. the researcher gave material to students about vocabulary. The ways to teach both classes was in different ways. In experimental class, the students were taught with spelling bee game. Meanwhile, in control class the the students were taught with the teacher ways without a game or media.
3. Post-test

Post-test is a test that was given after giving the treatment. The test were given to both classes. Post-test is the last test in this research. It means to see whether there is a significant effect or not. In this test, the researcher did a lot of steps. They are:
a) First preparing a test about vocabulary.
b) Second, the paper of the test and answer sheets were given to both experimental and control class.
c) Then, explaining the tips to answer.
d) The questions were answered by students.
e) Next, Collecting students answer sheets.
f) The last, checking the students answer and counted the score.

## G. The Technique of the Data Analysis

After doing tests, data were collected. To analyze the data, independent sample t-test was used. There were two tests that had been done before analyzing the data. They are normality test and homogeneity test.

1. Normality Test

A normality test can determine whether research data are normal or not. Test of normality in this research used SPSS v. 24 using the ShapiroWilk test with a significant level of $5 \%$ or 0.05 with criteria. If the value is significant (sig)> 0.05 , the students' pre- test and post-test were normally distributed. If the significant value $(\mathrm{sig})<0.05$, the students' pretest and post- test were not normally distributed.
2. Homogeneity Test

Homogeneity test was used to see the data from two classes was same or different in variant case. Homogeneity test means to know whether control class and experimental class have same variant or not. The researcher used SPSS V. 24 to calculate the data.

The test Criteria are:
3. If the significance value $(\mathrm{sig})>0.05$, the the data variance of the two classes is homogeneous ( accept $\mathrm{H}_{0}$ ).
4. If the significance value (sig) $<0.05$, the data varience of the two classes is not homogeneous ( accept $\mathrm{H}_{\mathrm{a}}$ ).
3. Hypothesis Test

T-test was used to examine the hypothesis. The researcher used Independent Sample T-test by using SPSS v.24. The result can be seen from the mean of score. The mean score score would show whether there is the difference between mean score of control group and mean score of experimental group. The researcher made the hyphothesis from the data that have been analyzed by looking at the $\mathrm{t}_{\text {count }}$ and compare it to $\mathrm{t}_{\text {table }}$. The test Criteria are:
a. $\mathrm{H} 0: \mu_{1}=\mu_{2}$ (hyphothesis was accepted if $\mathrm{t}_{\text {count }}<\mathrm{t}_{\text {table }}$ or Sig.(2-tailed) $>$ 0.05 ), it means there is no significant effect of spelling bee game on students' vocabulary mastery at XI grade students of SMAN 3 Padangsdimpuan)
b. Ha : $\mu_{1} \neq \mu_{2}$ (hyphothesis was accepted if $\mathrm{t}_{\text {count }}>\mathrm{t}_{\text {table }}$ or Sig.(2-tailed) $<$ 0.05 ), it means there is a significant effect of spelling bee game on students' vocabulary mastery at XI grade students of SMAN 3 Padangsdimpuan).

## CHAPTER IV

## THE RESULT OF RESEARCH

This chapter is presenting the research result. It is tdalking about the effect of spelling bee game on students' vocabulary mastery. The data using pre-test and post-test had been calculated. Quantitative research was used in this research and to test the hyphothesis used the formulation of t -test.

## A. Description of Data

## 1. Data Description of Pre-test Experimental Class

Class XI IPS 3 was as experimental class in this research. Based on the students' performance in pre-test, The students' score has been calculated as the table below:

Table 4.1
The score of Experimental Class inPre-test

| Description | Pre-Test |
| :---: | :---: |
| Total Score | 1848 |
| Highest score | 74 |
| Lowest score | 48 |
| Mean | 61.60 |
| Median | 60 |
| Modus | 60 |
| Range | 26 |
| Interval | 4 |
| Standard deviation | 6.956 |
| Variant | 48.386 |

Total score is the total of points that is got by students, more than 1800 total of score in pre-test experimental class. The reseacrher also got the highest score, the highest score is the largest value in the data. The highest score in this experimental pre-test was about 74. While the lowest
score, the smallest value in a data sequence. For the lowest score was under 50 . Next, mean can be said to be representative of the data set. Mean in this data was about 60.

Then, median is the middle of value after all the data is sorted, the researcher got 60 of median after calculating using SPSS v.24. Next, modus is the value that appears most often in a statistical data, the modus in this pre-test was 60 . Range is the differences between the minimum and maximum in the data, in this data it was 26 . Distance between classes is understanding of interval, it was 4 in this data.

Next, standard deviation is a value used in determining the distribution of data in a sample and seeing how close the data is to the mean value, it was near to 7 . Last, variant is the sum of the squares of all deviations of individual values to the group mean, it was about 48. For frequency distribution of experimental class in pre-test can be seen in the table below.

Table 4.2
Frequency Distribution of Experimental Class in Pre-test

| No | Interval Class | Frequency | Percentages |
| :---: | :---: | :---: | :---: |
| 1 | $48-52$ | 3 | $10 \%$ |
| 2 | $53-57$ | 3 | $10 \%$ |
| 3 | $58-62$ | 13 | $43,3 \%$ |
| 4 | $63-67$ | 4 | $13,4 \%$ |
| 5 | $68-72$ | 6 | $20 \%$ |
| 6 | $73-77$ | 1 | $3,3 \%$ |
|  | $i=5$ | 30 | $100 \%$ |

The interval between 58 and 62 has the greatest number of students (13 students/43,3\%), according to the table above. The range 73-77 has the fewest pupils (one student, or 3.3\%).

The histogram below provided a clear description data. According to the picture below, 3 students had scores between 48 and 52. Interval 53 to 57 was 3, Interval 58 to 62 was 13 . Interval 63 to 67 was 4 , interval 68 to 72 was 6 , and interval 73 to 77 was 1 . According to the histogram, the highest interval (58-62) had a value of 13 and the lowest interval (73-77), a value of 1.


Figure 1: Pre-test Histogram of Experimental Class

## 2. Data Description of Pre-test Control Class

In the control class's pre-test, the researcher calculated the students' scores, which are shown in the table below.

Table 4.3
The score of Control Class in Pre-test

| Description | Pre-Test |
| :---: | :---: |
| Total Score | 1808 |
| Highest score | 74 |
| Lowest score | 44 |
| Mean | 62.34 |
| Median | 62 |
| Modus | 54 |
| Range | 30 |
| Interval | 5 |


| Standard deviation | 7.766 |
| :---: | :---: |
| Variant | 60.305 |

Total score is the total of points that is got by students, more than 1800 total of score in pre-test control class. The researcher also got the highest score, the highest score is the largest value in the data. The highest score in this control pre-test was about 74. While the lowest score, the smallest value in a data sequence. For the lowest score was under 45 .

Next, mean can be said to be representative of the data set. Mean in this data was up to 60 . Then, median is the middle of value after all the data is sorted, the researcher got 62 of median after calculating using SPSS v.24. Next, modus is the value that appears most often in a statistical data, the modus in this pre-test was 54 . Range is the differences between the minimum and maximum in the data, in this data it was 30. Distance between classes is understanding of interval, it was 5 in this data.

Next, standard deviation is a value used in determining the distribution of data in a sample and seeing how close the data is to the mean value, it was near to 8 . Last, variant is the sum of the squares of all deviations of individual values to the group mean, it was about 60 . For frequency distribution of control class in pre-test can be seen in the table below.

Table 4.4
Frequency Distribution of Control Class in Pre-test

| No | Interval Class | Frequency | Percentages |
| :---: | :---: | :---: | :---: |
| 1 | $44-48$ | 1 | $3.4 \%$ |
| 2 | $49-53$ | 1 | $3,4 \%$ |
| 3 | $54-58$ | 10 | $34.5 \%$ |
| 4 | $59-63$ | 3 | $10.3 \%$ |
| 5 | $64-68$ | 6 | $20.7 \%$ |
| 6 | $69-74$ | 8 | $27.6 \%$ |
|  | $i=5$ | 29 | $100 \%$ |

The interval between 54 and 58 has the greatest number of students (10 students/34,5\%), according to the table above. The range 44-48 has the fewest pupils (one student, or 3.3\%).

Clear description of the data is presented in histogram. Based on figure below, the frequency of students' score from 44 up to 48 was 1.49 up to 53 was 1,54 up to 58 was 10,59 up to 63 was 3,64 up to 68 was 6 , and 69 up to 74 was 8 . The histogram shows that the highest interval (54-58) was 10 and the lowest interval (44-48 and 49-53) was
1.


Figure 2: Pre-test Histogram of Control Class

## 3. Data Description of Post-test Experimental Class

The calculation of the result that had been gotten by the students in doing the test after the researcher did the treatment by spelling bee game. It can be seen in table 4.5.

Table 4.5
The score of Experimental Class in Post-test

| Description | Post-Test |
| :---: | :---: |
| Total Score | 2432 |
| Highest score | 92 |
| Lowest score | 68 |
| Mean | 81,07 |
| Median | 82 |
| Modus | 80 |
| Range | 24 |
| Interval | 4 |
| Standard deviation | 7.216 |
| Variant | 52.064 |

Total score is the total of points that is got by students, more than 2400 total of score in post-test experimental class. The researcher also got the highest score, the highest score is the largest value in the data. The highest score in this experimental post-test was about 90 . While the lowest score, the smallest value in a data sequence. For the lowest score was under 70. Next, mean can be said to be representative of the data set. Mean in this data was up to 80 . Then, median is the middle of value after all the data is sorted, the researcher got 82 of median after calculating using SPSS v.24.

Next, modus is the value that appears most often in a statistical data, the modus in this post-test was 80 . Range is the differences between the minimum and maximum in the data, in this data it was 24 .

Distance between classes is understanding of interval,it was 4 in this data. Next, standard deviation is a value used in determining the distribution of data in a sample and seeing how close the data is to the mean value, it was near to 8 . Last, variant is the sum of the squares of all deviations of individual values to the group mean, it was about 50 . For frequency distribution of experimental class in post-test can be seen in the table below.

Table 4.6
Frequency Distribution of Experimental Class in Post-test

| No | Interval Class | Frequency | Percentages |
| :---: | :---: | :---: | :---: |
| 1 | $68-71$ | 5 | $16.7 \%$ |
| 2 | $72-75$ | 1 | $3.3 \%$ |
| 3 | $76-79$ | 4 | $13.3 \%$ |
| 4 | $80-83$ | 8 | $26.7 \%$ |
| 5 | $84-87$ | 5 | $16.7 \%$ |
| 6 | $88-92$ | 7 | $23.3 \%$ |
|  | $i=4$ | 30 | $100 \%$ |

The interval between 80 and 83 has the greatest number of students ( 8 students $/ 26,7 \%$ ), according to the table above. The range $72-75$ has the fewest pupils (one student, or 3.3\%)

Clear description of the data is presented in histogram. Based on figure below, the frequency of students' score from 68 up to 71 was 5 , 72 up to 75 was 1,76 up to 79 was 4,80 up to 83 was 8,84 up to 87 was 5 , and 88 up to 92 was 7 . The histogram shows that the highest interval (80-83) was 8 and the lowest interval (72-75) was 1.


Figure 3: Post-test Histogram of Experimental Class

## 4. Data Description of Post-test in Control Class

The calculated results from the control class's tests with students who had been taught vocabulary using traditional methods can be seen as below:

Table 4.7
The score of Control Class in Post-test

| Description | Post-Test |
| :---: | :---: |
| Total Score | 2194 |
| Highest score | 92 |
| Lowest score | 56 |
| Mean | 75.66 |
| Median | 76 |
| Modus | 72 |
| Range | 36 |
| Interval | 6 |
| Standard deviation | 8.419 |
| Variant | 70.877 |

Total score is the total of points that is got by students, more than 2100 total of score in post-test control class. The researcher also got
the highest score, the highest score is the largest value in the data. The highest score in this control post-test was about 90 . While the lowest score, the smallest value in a data sequence. For the lowest score was under 60. Next, mean can be said to be representative of the data set. Mean in this data was near to 76 .

Then, median is the middle of value after all the data is sorted, the researcher got 76 of median after calculating using SPSS v.24. Next, modus is the value that appears most often in a statistical data, the modus in this post-test was 72 . Range is the differences between the minimum and maximum in the data, in this data it was 36 . Distance between classes is understanding of interval,it was 6 in this data. Next, standard deviation is a value used in determining the distribution of data in a sample and seeing how close the data is to the mean value, it was near to 8.5. Last, variant is the sum of the squares of all deviations of individual values to the group mean, it was about 70. For frequency distribution of experimental class in post-test can be seen in the table below.

Table 4.8
Frequency Distribution of Control Class in Post-test

| No | Interval Class | Frequency | Percentages |
| :---: | :---: | :---: | :---: |
| 1 | $56-61$ | 2 | $6.9 \%$ |
| 2 | $62-67$ | 1 | $3.4 \%$ |
| 3 | $68-73$ | 10 | $34.5 \%$ |
| 4 | $74-79$ | 6 | $20.7 \%$ |


| 5 | $80-85$ | 6 | $20.7 \%$ |
| :---: | :---: | :---: | :---: |
| 6 | $86-92$ | 4 | $13.8 \%$ |
|  | $i=6$ | 29 | $100 \%$ |

The interval between 68 and 73 has the greatest number of students (10 students/34,5\%), according to the table above. The range 62-67 has the fewest students (one student, or 3.3\%)

Clear description of the data is presented in histogram. Based on figure below, the frequency of students' score from 56 up to 61 was 2 , 62 up to 67 was 1,68 up to 73 was 10,74 up to 79 was 6,80 up to 85 was 6 , and 86 up to 92 was 3 . The histogram shows that the highest interval (68-73) was 10 and the lowest interval (62-67) was 1.


Figure 4: Post-test Histogram of Control Class

## B. Data Analysis

## 1. Requirement Test

The purpose of a requirement test is to determine the average score of the data and to determine whether the data is homogeneous and normal
a. Pre- Test

## 1) Normality Test

Data normality of the two groups was calculated using SPSS v. 24 using Shapiro Wilk test because the number of samples in the study was less than 100 students, the significance level of test was $5 \%$ or 0.05 . The hyphothesis that will be tested in normality test as follows :
$\mathrm{H}_{0}$ : The students are not distributed normally. $\mathrm{H}_{0}$ is accepted when the shapiro-wilk $<0.05$.
$\mathrm{H}_{\mathrm{a}}$ : The students are distributed normally. $\mathrm{H}_{\mathrm{a}}$ is accepted when the shapiro-wilk $>0.05$.

Based on the analysis of normality of the pre-test data with Shapiro Wilk test using SPSS v. 24 it was obtained that the experimental class was 0.284 and the controll class was 0.095 . In other word, $0.284>0.05$ in experimental class and $0.095>$ 0.05 in control class.

Table 4.9
Normality in Pre-test
Tests of Normality

|  |  | Kolmogorov-Smirnov $^{\mathrm{a}}$ |  |  | Shapiro-Wilk |  |  |  |
| :--- | :--- | ---: | ---: | :---: | ---: | ---: | ---: | :---: |
|  | Statist <br> ic |  | df | Sig. | tatist <br> ic | Df | Sig. |  |
| Resu <br> ltExperimental <br> Pretest | 0.124 | 30 | $0.200^{*}$ | 0.959 | 30 | 0.284 |  |  |
| Controll Class <br> Pretest | 0.146 | 29 | 0.116 | 0.939 | 29 | 0.095 |  |  |

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction
the calculation it was found that Shapiro Wilk> 0.05 . So it can be concluded that pre-test data in experimental class and controll class were normally distributed.

## 2) Homogeneity Test

The homogeneity of variance test aims to determine whether the iniatial value (pre-test) of the sample has a homogeneous variance.

Ho : $\sigma_{1}^{2}=\sigma_{2}^{2}$ (Homogeneous variance)
$H a: \sigma_{2}^{2} \neq \sigma_{2}^{2}$ (Heterogeneous Variance)
Based on the results of analysis of homogeneity of variance analysis of the initial value data (pre-test) using SPSS v. 24 calculation (Appendix 16), obtained a sinificance value (sig) was 0.228 . Based on criteria for testing data homogeneity using SPSS v. 24 obtained a value significance (sig) based on mean $>0.05$ or $0.028>0.05$ it means the pre-test value of the sample has a homogeneous variance.

Table 4.10
Homogeneity in Pre-test

Result

| Levene <br> Statistic | df1 | df2 | Sig. |
| ---: | ---: | ---: | :---: |
| 1,484 | 1 | 57 | 0.228 |

## b. Post- Test

## 1) Normality Test

Data normality of the two groups was calculated using SPSS v. 24 using Shapiro Wilk test because the number of samples in the study was less than 100 students, the significance level of test was $5 \%$ or 0.05 . The hyphothesis that will be tested in normality test as follows :
$\mathrm{H}_{0}$ : The students are not distributed normally. $\mathrm{H}_{0}$ is accepted when the shapiro-wilk $<0.05$.
$\mathrm{H}_{\mathrm{a}}$ : The students are distributed normally. $\mathrm{H}_{\mathrm{a}}$ is accepted when the shapiro-wilk $>0.05$.

Based on the analysis of normality of the pre-test data with Shapiro Wilk test using SPSS v. 24 ( appendix 17) it was obtained that the experimental class was 0.154 and the controll class was 0.759 . In other word, $0.154>0.05$ in experimental class and $0.759>0.05$ in control class.

Table 4.11 Normality in Post-Test

|  | Class | Kolmogorov-Smirnov ${ }^{\text {a }}$ |  |  | Shapiro-Wilk |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Statistic | df | Sig. | Stat istic | df | Sig. |
| Result | Experi mental <br> Post- <br> Test | 0.108 | 30 | 0.200 | 0.94 8 | 30 | 0.154 |
|  | Contro <br> 11 Post- <br> Test | 0.116 | 29 | 0.200 | 0.97 7 | 29 | 0.759 |

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction
d on the test criteria obtained a significant value (sig) Shapiro
Wilk> 0.05 so it can be concluded that post-test in experimental class and controll class were normally distributed.

## 2) Homogeneity Test

The homogeneity of variance test aims to determine whether the iniatial value (post-test) of the sample has a homogeneous variance.

$$
\begin{aligned}
& \left.H o: \sigma_{1}^{2}=\sigma_{2}^{2} \text { (Homogeneous variance }\right) \\
& H a: \sigma_{2}^{2} \neq \sigma_{2}^{2}(\text { Heterogeneous Variance })
\end{aligned}
$$

Based on the results of analysis of homogeneity of variance analysis of the initial value data (post-test) using SPSS v. 24 calculation (Appendix 18), obtained a sinificance value (sig) was 0.515 . Based on criteria for testing data homogeneity using SPSS v. 24 obtained a value significance (sig) based on
mean $>0.05$, or $0.515>0.05$ it means the post-test value of the sample has a homogeneous variance.

Table 4.13
Homogeneity of Post-test
Test of Homogeneity of Variances
Result

| Levene <br> Statistic | df1 | df2 | Sig. |
| :---: | ---: | ---: | ---: |
| 0.429 | 1 | 57 | 0.515 |

## C. Hyphothesis Test

From the results of the data analysis requirements test, it can be seen that the two classes after treatment are normal and have homogeneous variance, so to test the hyphothesis using Independent Sample T-test using SPSS v.24. The hyphothesis that was tested as follows:

If $H_{0}: \mu_{1}=\mu_{2}$ means there is no significant effect of spelling bee game on vocabulary mastery at the XI grade students of SMAN 3 Padangsidimpuan.

If $H_{a}: \mu_{1} \neq \mu_{2}$ means there is significant effect of spelling bee game on vocabulary mastery at the XI grade students of SMAN 3 Padangsidimpuan.

Based on the calculation in pre-test by using Independent Sample T-test, it was found $\mathrm{t}_{\text {count }}-0.388$ with $\mathrm{t}_{\text {table }} 2.000247$ or Sig.(2-tailed) $>0.05$ (The calculation in Appendix 21). It means $\mathrm{t}_{\text {count }}<\mathrm{t}_{\text {table }}(-0.388<2.000247)$ or Sig.(2-tailed) $>0.05$ ( $0.699>0.05$ ). It can be concluded that that hypothesis $\mathrm{H}_{\mathrm{a}}$ was rejected and $\mathrm{H}_{0}$ was accepted. So, in pre-test, two
classes were same. There is no difference in the both class. But in Posttest, it was found that $\mathrm{t}_{\text {count }}>\mathrm{t}_{\text {table }}$ or $2.654>2.00247$ or looking at Sig.(2tailed) $<0.05$ (The calculation in Appendix 21). Based on the test criteria, $\mathrm{H}_{0}$ is rejected and $\mathrm{H}_{\mathrm{a}}$ is accepted. It means that the average of students vocabulary in experimental class using spelling bee game increased than average of students' vocabulary in controll class. So that is why $\mathrm{H}_{\mathrm{a}}: \mu_{1} \neq$ $\mu_{2 \text {, it can }}$ be concluded that " Spelling bee game significantly affects on vocabulary mastery at the XI grade students of SMAN 3 Padangsidimpuan. The result of T-test is as below:

Table 4.14
The result of T-test from the Both Averages

| Pre-test |  | Post-test |  |
| :---: | :---: | :---: | :---: |
| $t_{\text {count }}$ | $\mathrm{t}_{\text {table }}$ | $\mathrm{t}_{\text {count }}$ | $\mathrm{t}_{\text {table }}$ |
| -0.388 | 2.00247 | 2.654 | 2.00247 |

In addition, it was gotten the mean score of experimental class in pre-test was 61.60 and in post-test was 81.07 . Then the mean score of control class in pre-test was 62.34 and in post-test was 75.66 . The gain score was 6,15 . It can be seen as below :

Table 4.15
Gain score Experimental Class and Control Class

| Class | Pre-test | Post-test | Enhancement | Gain Score |
| :---: | :---: | :---: | :---: | :---: |
| Experimental | 61.60 | 81.07 | 19.47 | 6.15 |
| Control | 62.34 | 75.66 | 13,32 |  |

## D. Findings

The purpose of this research is to find out the answer of the problem formulation in chapter 1. After doing the research in the XI grade of SMAN 3 Padangsidimpuan about students' vocabulary mastery. There are some findings that was found by researcher.

First, the researcher got the spelling bee game significantly affects on students'vocabulary mastery at the XI grade of SMAN 3 Padangsidimpuan. It can be seen while the hyphothesis was tested. It was proved by $\mathrm{t}_{\text {count }}>\mathrm{t}_{\text {table }}(2.654>2.0047)$ and by looking Sig. $(2$-tailed $)<0.05$ (0.01<0.05).

Second, how the spelling bee game significantly affects on students'vocabulary mastery. The researcher gave the test to students at the first. After that, the researcher divided students into experimental and control class. Then giving them the post-test at the last. The researcher found the total score in experimental class was significantly increased, while the control class was also increased but not significantly. Control class was also increased because they were being taught by conventional strategy. But it's not as good as when using spelling bee game. This research was gotten the gain score between experimental and control class was 6.15 . It means that the experimental class was higher than control class.

## E. Discussion

The result of this research found that spelling bee game gave the significant effect for students in XI grade. It can be seen from the calculation of the data and test hyphothesis using T-test formula.

Researcher proved that Basingtoke's theory which using Spelling Bee Game for teaching vocabulary was a good game to increase students' vocabulary mastery. It was proved by hyphothesis that showed $t_{\text {hitung }}$ $=2.654$, significance value $($ sig $) \alpha=0,05$ and $\mathrm{dk}=n_{1}+n_{2}-2=57$ with $t_{\text {tabel }}=2.00247$, it means $t_{\text {hitung }}>t_{\text {tabel }}$. It was also sharpen by looking at Sig.(2-tailed) $<0.05(0.01<0.05)$. So, it can be concluded that spelling bee game is significantly affects on vocabulary mastery at XI grade students of SMAN 3 Padangsidimpuan.

The researcher also provided the similar cases with this research. The first researcher was conducted by Sari examining the effect of spelling bee game on students' vocabulary mastery. ${ }^{1}$ The findings of her study indicated that teaching vocabulary through spelling bee game could help students in improving their vocabulary building. The students got better score after the treatment of spelling bee game with percentage $77 \%$ from $100 \%$.

The second researcher was conducted by Haeri talking the implementation of spelling bee game to improve the students' vocabulary

[^30]mastery. ${ }^{2}$ The findings of the research was the result of using spelling bee game on students' vocabulary showed significant improvement from pretest and post-test. It was proved by the score before and after giving the treatment. Which mean score of pretest was 17.12 and after using spelling bee game the mean score was 31.2.

In conclusion spelling bee game gave a significant effect on vocabulary mastery. This game can be used in increasing students' vocabulary mastery, it was supported from discussion above that tells that spelling bee game is suitable and good game for teaching vocabulary.

## F. Threats of the Research

During the course of this study, the researcher came to the realization that the research presented a number of risks, beginning with the title and continuing through the method for analyzing the data and the arrangement of the proposal to the completion of the thesis. As a result, the research recognized that the thesis was far from being of high quality.

The researcher found the threats of this research as follow:

1. Spelling bee games were rarely used by English teachers in the classroom.
2. The students did not take the learning process seriously.
3. The limited of time of research.

[^31]4. The students lacked relevant background knowledge or experience with data processing.

## CHAPTER V <br> CONCLUSION AND SUGGESTIONS

## A. Conclusion

Based on quantitative research result with experimental method, the researcher took some points as below:

1. Spelling bee game affects on vocabulary mastery at XI grade students of SMAN 3 Padangsidimpuan, it is proved by mean score of experimental class in post-test was higher than mean score of control class in post-test. Mean score of experimental class in post-test is 81.07, while mean score of control class in post-test is 75.66 .
2. The effect of spelling bee game on vocabulary mastery at the XI grade students of SMAN 3 Padangsidimpuan is significant, it is performing T-test which shows that $t_{\text {hitung }}=2.654$, significance value (sig) $\alpha=$ 0,05 and $\mathrm{dk}=n_{1}+n_{2}-2=57$ with $t_{\text {tabel }}=2.00247, t_{\text {hitung }}>t_{\text {tabel }}$, $H_{a}$ is accepted, $H_{0}$ is rejected.

It can be concluded that spelling bee game significantly affects on vocabulary mastery at the XI grade students of SMAN 3 Padangsidimpuan.

## B. Suggestions

Based on the conclusion above, the researcher gives some suggestions :

1. To English teachers, especially an English teacher in SMAN 3 Padangsidimpuan are hoped to use spelling bee game in teaching vocabulary to increase the students'mastery.
2. To students, hoped to be more active while learning and can increase learning result in English, especially vocabulary mastery.
3. To head master, to pay attention to the facilities needed by educators for the sake of progress and increasing the ability to support learning so that learning can improve students' learning outcomes.
4. To next researchers, to conduct more in depth research by studying different theories, populations or other English competencies.

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## CURRICULUM VITAE



## A. Identity

Name
Reg. Number
: Yuni Annisa Hafni Rambe

Place/ Birth
: 1820300063
Sex
Religion
: Simatorkis Sisoma, June $30^{\text {th }} 2000$

Address : Jl. Sibolga Km. 15, Simatorkis Sisoma
: Female
B. Parents

Father's Name
: Bonar Rambe
Mother's Name
: Asna Dewita Siregar

## C. Educational Background

1. Elementary School
: SD Negeri 100010 Simatorkis, 2012
2. Junior High School : SMP Negeri 1 Angkola Barat, 2015.
3. Senior High School : SMA Negeri 1 Angkola Barat, 2018.
4. University : UIN Syahada, 2018-2022

Appendix 1

## RENCANA PELAKSANAAN PEMBELAJARAN (RPP) Control Class

| Sekolah | $:$ SMAN 3 Padangsidimpuan |
| :--- | :--- |
| Mata Pelajaran | $:$ Bahasa Inggris |
| Kelas / Semester | $:$ XI/ Semester 2 |
| Alokasi Waktu | $: 2 \times 45$ Menit |
| Materi Pokok | $:$ Vocabulary |
| Sub Materi | $:$ Job and Hobbies |

## A. Kompetensi Inti

KI-1 Menghargai dan menghayati ajaran agama yang dianutnya
KI-2 Menghargai dan menghayati perilaku jujur, disiplin, tanggungjawab,peduli (toleransi, gotong royong), percaya diri, percaya diri, dalamberinteraksi secara efektif dengan lingkungan sosial dan alam dalamjangkauan pergaulan dan keberadaannya.

KI-3 Memahami pengetahuan (faktual, konseptual, dan prosedural)berdasarkan rasa ingin tahunya tentang ilmu pengetahuan, teknologi,seni, budaya terkait fenomena dan kejadian tampak mata.

KI-4 Mencoba, mengolah, dan menyaji dalam ranah konkret (menggunakan,mengurai, merangkai, memodifikasi, dan membuat) dan ranah abstrak(menulis, membaca, menghitung, menggambar, dan mengarang) sesuaidengan yang dipelajari di sekolah dan sumber lain yang sama dalamsudut pandang/teori.

## B. Kompetensi Dasar

3.4. Mengidentifikasi fungsi sosial, struktur teks, dan unsur kebahasaan teks interaksi transaksional lisan dan tulis terkait jenis pekerjaan, hobby.

## C. Indikator Pencapaian

3.4.1 Mengidentifikasi cara menyatakanjenis-jenis pekerjaan, hobby dalam bahasa inggris.
3.4.2 Mengidentifikasi huruf-huruf yang terdapat dalam jenis-jenis pekerjaan, hobby yang sesuai dengan kata yang dimaksud dalam bahasa inggris

## D. Tujuan Pembelajaran

Setelah mengikuti pembelajaran, peserta didik diharapkan dapat memahami, membedakan dan mampu menyebutkan huruf-huruf yang terdapqat dalam jenis-jenis pekerjaan, hobby dan bangunan publik yang terdapat dalam bahsa inggris untuk melaksanakan komunikasi menggunakan ungkapan dengan struktur teks yang runtut dengan unsur kebahasaan yang benar dan sesuai konteks secara jujur, disiplin, dan percaya diri.
E. Sumber Belajar

- Internet
- Blog
F. Media/alat, Bahan dan Sub Belajar

Media : Smartphone
Alat/sumber : Spidol, papan tulis, buku, kertas, pulpen
G. Model Pembelajaran

## - Ceramah

## H. Langkah - langkah Pembelajaran

| Kegiatan Pendahuluan ( 15 menit ) |
| :--- |
| Melakukan pembukaan dengan salam pembuka dan berdoa untuk memulai <br> pembelajaran, memeriksa kehadiran peserta didik sebagai sikap disiplin. |
| Warming up untuk menarik perhatian Dan kefokusan siswa sebelum <br> pembelajaran dimulai agar siswa tidal tegang. |
| Brain storming dengan memberikan beberapa pertanyaan terkait materi dan <br> mengaitkan materi/ tema / kegiatan pembelajaran yang akan dilakukan dengan <br> pengalaman peserta didik dengan materi / tema/ kegiatan sebelumnya serta <br> mengaitkannya dengan kegiatan selanjutnya. |
| Menyampaikan motivasi tentang apa yang dapat diperoleh ( tujuan dan manfaat <br> dengan mempelajari materi vocabulary. |
| Kegiatan <br> Literasi |
| Peserta didik diberi motivasi dan panduan untuk melihat, <br> mengamati, membaca dan menuliskannya kembali.Mereka <br> diberi penjelasan dan bahan bacaan terkait materi materi <br> vocabulary |
| Critical <br> Thinking |
| Guru memberi kesempatan untuk mengidentifikasi sebanyak <br> mungkin hal yang belum dipahami, dimulai dari pertanyaan <br> factual sampai kepertanyaan yang bersifat hipotetik.pertanyaan <br> ini harus tetap berkaitan dengan materi vocabulary. |


| Collaboration | Peserta didik diberi tugas individu untuk menghalalkan <br> vocabulary yang sudah dituliskan di papan tulis |
| :--- | :--- |
| Communication | Peserta didik melafalkan vocabulary yang sudah dihapal <br> didepan kelas. |
| Creativity | Gurru dan peserta didik membuat kesimpulantentang hal -hal <br> yang telah dipelajari terkait materi vocabulary. Peserta didik <br> kemudian diberi kesempatan untuk menanyakan kembali hal - <br> hal yang belum dipahami. |
| Kegiatan Penutup (15 menit ) |  |
| Peserta didik membuat rangkuman atau kesimpulan pelajaran. Taentang poin - <br> poin penting yang muncul dalam kegiatan pembelajaran yang baru dilakukan. |  |
| Guru membuan rangkuman atau kesimpulan pembelajran. Taentang poin -poin <br> penting yang muncul dalam kegiatan pembelajaran yang baru dilakukan. |  |

## I. Penilaian hasil pembelajaran

| No. | Indicators | Types of <br> test | Items | Number <br> of <br> Items | Score | Total <br> Score |
| :---: | :--- | :--- | :---: | :---: | :---: | :---: |
| 1 | Spelling | Multiple <br> Choice | 10 | $1-10$ | 3 | 30 |
|  | Completion | 5 | $25-30$ | 5 | 25 |  |
| 2 | Meaning of <br> words | Multiple <br> Choice | 10 | $11-20$ | 3 | 30 |
| 2 | Word Class | Multiple <br> Choice | 5 | $21-25$ | 3 | 15 |

## Appendix 2

## RENCANA PELAKSANAAN PEMBELAJARAN (RPP) Experimental Class

| Sekolah | : SMAN 3 Padangsidimpuan |
| :--- | :--- |
| Mata Pelajaran | : Bahasa Inggris |
| Kelas / Semester | $:$ XI/ Semester 2 |
| Alokasi Waktu | $: 2 \times 45$ Menit |
| Materi Pokok | $:$ Vocabulary |
| Sub Materi | $:$ Job and Hobbies |

## A. Kompetensi Inti

KI-1 Menghargai dan menghayati ajaran agama yang dianutnya
KI-2 Menghargai dan menghayati perilaku jujur, disiplin, tanggungjawab, peduli (toleransi, gotong royong), percaya diri, percaya diri, dalam berinteraksi secara efektif dengan lingkungan sosial dan alam dalam jangkauan pergaulan dan keberadaannya.

KI-3 Memahami pengetahuan (faktual, konseptual, dan prosedural) berdasarkan rasa ingin tahunya tentang ilmu pengetahuan, teknologi, seni, budaya terkait fenomena dan kejadian tampak mata.

KI-4 Mencoba, mengolah, dan menyaji dalam ranah konkret (menggunakan, mengurai, merangkai, memodifikasi, dan membuat) dan ranah abstrak
(menulis, membaca, menghitung, menggambar, dan mengarang) sesuai dengan yang dipelajari di sekolah dan sumber lain yang sama dalam sudut pandang/teori.

## B. Kompetensi Dasar

3.4. Mengidentifikasi fungsi sosial, struktur teks, dan unsur kebahasaan teks interaksi transaksional lisan dan tulis terkait jenis pekerjaan, hobby.

## C. Indikator Pencapaian

3.4.1 Mengidentifikasi cara menyatakan jenis-jenis pekerjaan, hobby dalam bahasa inggris.
3.4.2 Mengidentifikasi huruf-huruf yang terdapat dalam jenis-jenis pekerjaan, hobby yang sesuai dengan kata yang dimaksud dalam bahasa inggris

## D. Tujuan Pembelajaran

Setelah mengikuti pembelajaran, peserta didik diharapkan dapat memahami, membedakan dan mampu menyebutkan huruf-huruf yang terdapqat dalam jenis-jenis pekerjaan, hobby dan bangunan publik yang terdapat dalam bahsa inggris untuk melaksanakan komunikasi menggunakan ungkapan dengan struktur teks yang runtut dengan unsur kebahasaan yang benar dan sesuai konteks secara jujur, disiplin, dan percaya diri.
E. Sumber Belajar

- Internet
- Blog
F. Media/alat, Bahan dan Sub Belajar

Media : Smartphone
Alat/sumber : Spidol, papan tulis, buku, kertas, pulpen
G. Model Pembelajaran

- Spelling bee game technique.


## H. Langkah - langkah Pembelajaran

| Kegiatan Pendahuluan (15 menit ) |
| :--- |
| Melakukan pembukaan dengan salam pembuka dan berdoa untuk memulai <br> pembelajaran, memeriksa kehadiran peserta didik sebagai sikap disiplin. |


| Warming up untuk menarik perhatian Dan kefokusan siswa sebelum <br> pembelajaran dimulai agar siswa tidal tegang. |  |
| :--- | :--- |
| Brain storming dengan memberikan beberapa pertanyaan terkait materi dan <br> mengaitkan materi/ tema / kegiatan pembelajaran yang akan dilakukan dengan <br> pengalaman peserta didik dengan materi / tema/ kegiatan sebelumnya serta <br> mengaitkannya dengan kegiatan selanjutnya. |  |
| Menyampaikan motivasi tentang apa yang dapat diperoleh ( tujuan dan manfaat <br> dengan mempelajari materi vocabulary. |  |
| Kegiatan <br> Literasi | Peserta didik diberi motivasi dan panduan untuk melihat, <br> mengamati, membaca dan menuliskannya kembali.Mereka <br> diberi penjelasan dan bahan bacaan terkait materi materi <br> vocabulary |
| Critical <br> Thinking | Guru memberi kesempatan untuk mengidentifikasi sebanyak <br> mungkin hal yang belum dipahami, dimulai dari pertanyaan <br> factual sampai kepertanyaan yang bersifat hipotetik.pertanyaan <br> ini harus tetap berkaitan dengan materi vocabulary. |
| Collaboration | Peserta didik dibagi menjadi beberapa kelompok. Guru akan <br> memberikan treatment menggunakan spelling bee game. Guru <br> menjelaskan aturan mainnya. Aturan mainnya, guru akan <br> mengeja sebuah vocabulary tentang Jobs and hobbies. <br> Kemudian setiap kelompok harus mendengarkan dengan <br> seksama apa yang di spell guru kemudian menuliskannya di <br> sebuah kertas. Kemudian berlari menuju guru untuk dinilai, <br> siapa yang tercepat dan benar akan mendapatkan nilai <br> tertinggi. |
| Communication | Peserta didik melafalkan vocabulary apa saja yang terdapat <br> dalam game serta memberikan artinya. |
| Creativity <br> peserta didik membuat rangkuman atau kesimpulan pelajaran. Taentang poin - |  |
| Gurru dan peserta didik membuat kesimpulantentang hal -hal <br> gang telah dipelajari terkait materi vocabulary. Peserta didik <br> pemudian diberi kesempatan untuk menanyakan kembali hal - <br> hal yang belum dipahami. |  |
| Kentiatan Penutup (15 menit ) |  |

## I. Penilaian hasil pembelajaran

| No. | Indicators | Types of <br> test | Items | Number <br> of <br> Items | Score | Total <br> Score |
| :---: | :--- | :--- | :---: | :---: | :---: | :---: |
| 1 | Spelling | Multiple <br> Choice | 10 | $1-10$ | 3 | 30 |
|  | Completion | 5 | $25-30$ | 5 | 25 |  |
| 2 | Meaning of <br> words | Multiple <br> Choice | 10 | $11-20$ | 3 | 30 |
| 2 | Word Class | Multiple <br> Choice | 5 | $21-25$ | 3 | 15 |

## Appendix 3

## INSTUMENT FOR PRE-TEST

1. Pengantar

Tes ini bertujuan untuk menjaring data dari siswa/i mengenai vocabulary mastery dan jawaban anda tidak mempengaruhi nilai anda di sekolah ini
2. Petunjuk
a. Bacalah pertanyaan berikut dengan teliti
b. Jawablah pertanyaan berikut dengan benar
c. Apabila ada pertanyaan yang kurang jelas, tanyakan langsung kepada pengawas
d. Waktu yang di berikan untuk menjawab soal adalah 60 menit

Name :
Class:

## Part 1

In this section, you will be given 10 multiple choices. Choose the best spelling of each word given.

1. A person who teach the students.
A. Teacher
B. Theacer
C. Tehacer
D. Taecher
2. A person who provides legal services.
A. Layer
B. Lawyer
C. Lowyer
D. Lawer
3. A person who writes a book or novel.
A. Autor
B. Awthor
C. Author
D. Auhtor
4. A person who sews clothes
A. Tailer
B. Tailor
C. Talor
D. Teilor
5. The person driving the vehicle.
A. Driper
B. Driver
C. Deriver
D. Deriper
6. An activity preparing food to eat.
A. Cooking
B. Cucking
C. Coking
D. Cocking
7. An activity to explore nature such as mountain climbing.
A. Haiking
B. Hiking
C. Hacking
D. Hecking
8. Having a journey to some places.
A. Travelling
B. Trafelling
C. Traveling
D. Trapelling
9. Fast forward movement
A. Ranning
B. Running
C. Runing
D. Raning
10. An activity to buy something.
A. Shopping
B. Syoping
C. Shoping
D. Syopping

Part 2
You will be given the meaning of the words. You have to choose the meaning of the words refers to what.
11. Growing Vegetables in the garden.
A. Gardening
B. Swimming
C. Flying
D. Walking
12. Sport done in the water.
A. Swimming
B. Running
C. Climbing
D. Surving
13. Move the body beautifully accompanied by music.
A. Dancing
B. Singing
C. Acting
D. Dating
14. Lay the body on the bed.
A. Waking up
B. Sleeping

## Part 3

Choose the correct word class the bolded word in this text.
C. Getting up
D. Cleaning
15. A person who has a job to cook.
A. Actor
B. Chef
C. Singer
D. Driver
16. A person who grows the vegetables.
A. Farmer
B. Contractor
C. Police
D. Teacher
17. This job is to catch the fish.
A. Fisherman
B. Farmer
C. Army
D. Dancer
18. A person who has beautiful voice.
A. Actor
B. Singer
C. Athlete
D. Dancer
19. This job is to repair something broken.
A. Contractor
B.Farmer
C. Engineer
D. Manager
20. A person who drives a plane.
A.Pilot
B. Fisherman
C. Athlete
D.

Tailor

My brother is a postman
I have a brother. His name is Johny. He is a postman.

My brother works at the Central Post Office. Everyday he delivers letters to many people. He usually starts his job at 8 a.m. First, he goes to the addresses near his office. Then he continues to the addresses far from his office. He stop working at 2 p.m. He never bored with his job. He is happy to be a postman.
23. Everyday
A.Conjunction
B. Adjective
C. Adverb
D. Preposition
24. At
A.Preposition
B. Verb
D.Adjective
21. Postman
A.Adjective
B. Noun
C. Preposition
D. Adverb
22. Works
A.Verb
B. Adverb
C. Conjunction
D. Adjective
C. Adverb
D. Conjunction
25. Bored
A.Verb
B. Adverb
C. Conjunction

## Part 5

Think out the meaning of these words .
26. Teacher can be defined as...
27. Postman can defined as...
28. Chef can be defined as...
29. Cooking can be defined as...
30. Drawing can be defined as...

## Appendix 4

## INSTUMENT FOR POST-TEST

1. Pengantar

Tes ini bertujuan untuk menjaring data dari siswa/i mengenai vocabulary mastery dan jawaban anda tidak mempengaruhi niai anda di sekolah ini
2. Petunjuk
a. Bacalah pertanyaan berikut dengan teliti
b. Jawablah pertanyaan berikut dengan benar
c. Apabila ada pertanyaan yang kurang jelas, tanyakan langsung kepada pengawas
d. Waktu yang diberikan untuk menjawab soal adalah 60 menit

Name :
Class :
Part 1
In this section, you will be given 10 multiple choices. Choose the best spelling of each word given.

1. The person who collects the news.
A. Journalist
B. Jurnalist
C. Jornalist
D. Journalis
2. The person who is expert in machinery
A. Mecanic
B. Mekhanic
C. Mechanic
D. Mechanik
3. A person who can dance.
A. Danser
B. Dancher
C. Dancer
D. Dencer
4. A person who is expert in sport.
A. Athlete
B. Athlet
C. Atleth
D. Athlet
5. This job is to take some beautiful photos.
A. Fhotographer
B. Photograper
C. Fotographer
D. Photographer
6. Creating a book.
A. Riting
B. Raiting
C. Writing
D. Wraiting
7. Water sport using a surfboard.
A. Surving
B. Surping
C. Surphing
D. Surfing
8. A sport using bicycle.
A. Cyacling
B. Cycling
C. Cicling
D. Ciclying
9. Making some clothes.
A. Swing
B. Sewing
C. Sewying
D. Siwing
10. Sewing a cloth using the wool yarn.
A.Kniting
B. Knitting
C. Kenniting
D. Knetting

Part 2
You will be given the meaning of the words. You have to choose the meaning of the words refers to what.
11. Sewing a cloth using the wool yarn.
A. Cooking
B. Knitting
C. Gardening
D. Climbing
12. Make a cloth.
A. Sewing
B. Knitting
C. Gardening
D. Swimming
13. A fast flowing sport.
A. Surving
B. Rafting
C. Swimming
D. Photography
14. An activity creates musical sounds with the voice.
A. Dancing
B. Singing
C. Acting
D. Cooking
15. The art or process of producing images.
A. Photography
B. Taking
C. Fishing
D. Cooking
16. A game that is loved by children using thread.
A.Playing kite
B. Playing ball
C. Playing a game
D. Rafting
17. Swimming to sea bottom.
A. Swimming
B. Rafting
C. Singing
D. Diving
18. Making an art to be colorfull.
A. Drawing
B. Writing
C. Coloring
D. Running
19. The craft of controlling a boat.
A.Sailing
B. Selling
C. Swimming
D. Shopping
20. Buying some things.
A. Going for a walk
B. Shopping
C.Running
D. Walking

Part 3

Choose the correct word class the bolded word in this text.

My hobby is painting. Since childhood, I learned to paint from my mother. My mother's job is as a kindergarten teacher but she is very good at painting. My mother likes to 26. Painting
A.Verb
B. Noun
C. Adjective
D. Conjunction
27. Learned
A. Verb
B. Adverb
C. Conjunction
D. Preposition
28. But
A. Preposition
C. Adjective
B. Conjunction

## Part 4

Think out the meaning of these words.
31. Police man can be defined as....
32. Writer is someone that...
33. Singing can be defined as...
34. Swimming can be defined as..
35.Drawing can be defined as...
paint on canvas while I like to paint on paper. The technique I usually use is watercolor painting. In the past, when I was in kindergarten and elementary school, painting using watercolors looked unattractive.
A. Adverb
B. Verb
C. Conjunction
D. Adjective
29. On
A. Preposition
B. Conjunction
C. Verb
D. Adverb
30. Unattractive

## Appendix 5

DATA FOR VALIDITY AND REALIBILITY IN PRE-TEST

| NA ME | Q <br> 1 | Q 2 | Q <br> 3 | Q <br> 4 | Q <br> 5 | Q 6 | Q <br> 7 | Q <br> 8 | Q <br> 9 | $\begin{gathered} \mathrm{Q} \\ 1 \\ 0 \end{gathered}$ | $\begin{gathered} \mathrm{Q} \\ 1 \\ 1 \end{gathered}$ | $\begin{array}{\|c\|} \hline \mathrm{Q} \\ 1 \\ 2 \\ \hline \end{array}$ | $\begin{gathered} \hline \mathrm{Q} \\ 1 \\ 3 \end{gathered}$ | $\begin{gathered} \mathrm{Q} \\ 1 \\ 4 \end{gathered}$ | $\begin{gathered} \hline \mathrm{Q} \\ 1 \\ 5 \end{gathered}$ | $\begin{aligned} & \mathrm{Q} \\ & 1 \\ & 6 \\ & \hline \end{aligned}$ | $\begin{gathered} \mathrm{Q} \\ 1 \\ 7 \end{gathered}$ | $\begin{gathered} \mathrm{Q} \\ 1 \\ 8 \end{gathered}$ | $\begin{gathered} \mathrm{Q} \\ 1 \\ 9 \end{gathered}$ | $\begin{aligned} & \mathrm{Q} \\ & 2 \\ & 0 \end{aligned}$ | $\begin{gathered} \mathrm{Q} \\ 2 \\ 1 \end{gathered}$ | $\begin{aligned} & \mathrm{Q} \\ & 2 \\ & 2 \end{aligned}$ | $\begin{aligned} & \mathrm{Q} \\ & 2 \\ & 3 \end{aligned}$ | Q 2 4 | Q 2 5 | Q 2 6 | $\begin{aligned} & \mathrm{Q} \\ & 2 \\ & 7 \end{aligned}$ | Q 2 8 8 | Q 2 9 | Q 3 0 | $\begin{gathered} \text { TO } \\ \text { TA } \\ \text { L } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \hline \text { S R } \\ & \text { A } \\ & \hline \end{aligned}$ | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| $\begin{aligned} & \mathrm{N} \mathrm{~S} \\ & \mathrm{~S} \\ & \hline \end{aligned}$ | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 28 |
| E | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| S R | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 29 |
| U S | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 20 |
| $\begin{aligned} & \text { F A } \\ & \mathrm{N} \\ & \hline \end{aligned}$ | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 20 |
| I S | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| $\begin{aligned} & \mathrm{EE} \\ & \mathrm{H} \\ & \hline \end{aligned}$ | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| $\begin{aligned} & \text { F A } \\ & \text { D } \end{aligned}$ | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 29 |
| D S | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 8 |
| $\begin{aligned} & \mathrm{A} \\ & \mathrm{~W} \\ & \mathrm{~L} \end{aligned}$ | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 27 |
| P | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 21 |
| $\begin{aligned} & \mathrm{N} \\ & \mathrm{~A} \\ & \mathrm{D} \\ & \hline \end{aligned}$ | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |


| $\begin{aligned} & \text { T } \\ & \text { Y S } \end{aligned}$ | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 24 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| N | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 24 |
| $\begin{aligned} & \hline \mathrm{R} \\ & \mathrm{R} \\ & \mathrm{G} \end{aligned}$ | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| S Z | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 12 |


| NAME | Q31 | Q32 | Q33 | Q34 | Q35 | TOTAL |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| S R A | 0 | 0 | 0 | 1 | 1 | 2 |
| N S S | 1 | 1 | 1 | 0 | 0 | 3 |
| E | 1 | 1 | 0 | 1 | 1 | 1 |
| S R | 0 | 0 | 0 | 0 | 0 | 0 |
| U S | 1 | 1 | 0 | 0 | 0 | 2 |
| F A N | 1 | 1 | 1 | 1 | 1 | 5 |
| I S | 1 | 1 | 0 | 1 | 1 | 4 |
| E E H | 1 | 1 | 1 | 0 | 0 | 3 |
| F A D | 1 | 1 | 0 | 0 | 0 | 2 |
| D S | 0 | 1 | 0 | 1 | 0 | 2 |
| A W L | 1 | 1 | 1 | 1 | 1 | 5 |
| P | 1 | 0 | 0 | 1 | 0 | 2 |
| N A D | 1 | 1 | 0 | 0 | 0 | 2 |
| T Y S | 0 | 1 | 0 | 1 | 1 | 3 |
| N | 1 | 1 | 0 | 1 | 1 | 4 |
| R R G | 0 | 0 | 0 | 0 | 0 | 0 |
| S Z | 1 | 1 | 1 | 1 | 1 | 5 |

Appendix 6
DATA FOR VALIDITY AND REALIBILITY IN POST-TEST

| N O. | NA MA | Q <br> 1 | Q <br> 2 | Q <br> 3 | Q <br> 4 | Q <br> 5 |  <br>  | Q <br> 7 | Q <br> 8 | Q <br> 9 | Q <br> 1 <br> 0 | Q <br> 1 <br> 1 | Q <br> 1 <br> 2 | $\begin{array}{\|c\|} \hline \mathrm{Q} \\ 1 \\ 3 \\ \hline \end{array}$ |  <br> 1 <br> 4 <br> 4 | $\begin{gathered} \mathrm{Q} \\ 1 \\ 5 \\ \hline \end{gathered}$ | $\begin{gathered} \mathrm{Q} \\ 1 \\ 6 \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline \mathrm{Q} \\ 1 \\ 7 \\ \hline \end{array}$ | $\begin{gathered} \mathrm{Q} \\ 1 \\ 8 \\ \hline \end{gathered}$ | $\begin{gathered} \hline \mathrm{Q} \\ 1 \\ 9 \\ \hline \end{gathered}$ | $\begin{aligned} & \hline \mathrm{Q} \\ & 2 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{array}{\|c\|} \hline \mathrm{Q} \\ 2 \\ 1 \\ \hline \end{array}$ | $\begin{gathered} \mathrm{Q} \\ 2 \\ 2 \\ \hline \end{gathered}$ | $\begin{gathered} \mathrm{Q} \\ 2 \\ 3 \\ \hline \end{gathered}$ | $\begin{array}{\|l\|} \hline \mathrm{Q} \\ 2 \\ 4 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \mathrm{Q} \\ 2 \\ 5 \\ \hline \end{array}$ | $\begin{aligned} & \mathrm{Q} \\ & 2 \\ & 6 \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline \mathrm{Q} \\ 2 \\ 7 \\ \hline \end{array}$ | $\begin{gathered} \mathrm{Q} \\ 2 \\ 8 \end{gathered}$ | $\begin{aligned} & \mathrm{Q} \\ & 2 \\ & 9 \end{aligned}$ | $\begin{aligned} & \mathrm{Q} \\ & 3 \\ & 0 \end{aligned}$ | $\begin{gathered} \mathrm{TO} \\ \mathrm{TA} \\ \mathrm{~L} \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | $\begin{aligned} & \mathrm{S} \text { R } \\ & \mathrm{A} \end{aligned}$ | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 12 |
| 2 | $\begin{aligned} & \mathrm{N} \text { S } \\ & \mathrm{S} \\ & \hline \end{aligned}$ | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 20 |
| 3 | E | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 25 |
| 4 | S R | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 5 | U S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 12 |
| 6 | $\begin{aligned} & \text { FA } \\ & \mathrm{N} \end{aligned}$ | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 29 |
| 7 | I S | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 26 |
| 8 | $\begin{aligned} & \text { E E } \\ & \mathrm{H} \\ & \hline \end{aligned}$ | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 20 |
| 9 | $\begin{aligned} & \text { F A } \\ & \text { D } \end{aligned}$ | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 17 |
| $\begin{aligned} & 1 \\ & 0 \\ & \hline \end{aligned}$ | D S | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| $\begin{aligned} & 1 \\ & 1 \end{aligned}$ | $\begin{aligned} & \hline \mathrm{A} \\ & \mathrm{~W} \\ & \mathrm{~L} \\ & \hline \end{aligned}$ | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 28 |
| $\begin{aligned} & 1 \\ & 2 \\ & \hline \end{aligned}$ | P | 1 | 1 | 0 | 0 | $\begin{aligned} & 2 \\ & 1 \\ & \hline \end{aligned}$ | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 39 |
| $\begin{aligned} & \hline 1 \\ & 3 \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { N A } \\ \mathrm{D} \end{array}$ | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 12 |


| $\begin{aligned} & 1 \\ & 4 \end{aligned}$ | $\begin{aligned} & \text { T Y } \\ & \mathrm{S} \end{aligned}$ | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 16 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 5 | N | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 22 |
| 1 6 | $\begin{aligned} & \hline \text { R R } \\ & \text { G } \\ & \hline \end{aligned}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 7 | S Z | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 20 |


| NO. | NAMA | Q31 | Q32 | Q33 | Q34 | Q35 | TOTAL |
| :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | S R A | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | N S S | 1 | 1 | 1 | 1 | 1 | 20 |
| 3 | E | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | S R | 1 | 1 | 1 | 1 | 1 | 20 |
| 5 | U S | 0 | 1 | 1 | 0 | 1 | 12 |
| 6 | F A N | 0 | 1 | 0 | 1 | 1 | 12 |
| 7 | I S | 1 | 0 | 0 | 0 | 0 | 4 |
| 8 | E E H | 0 | 0 | 0 | 0 | 1 | 4 |
| 9 | F A D | 1 | 1 | 1 | 1 | 1 | 20 |
| 10 | D S | 0 | 0 | 0 | 1 | 0 | 4 |
| 11 | A W L | 1 | 1 | 1 | 1 | 1 | 20 |
| 12 | P | 1 | 1 | 1 | 0 | 1 | 16 |
| 13 | N A D | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | T Y S | 1 | 1 | 0 | 1 | 1 | 16 |
| 15 | N | 1 | 1 | 1 | 0 | 1 | 16 |
| 16 | R R G | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | S Z | 0 | 1 | 1 | 0 | 0 | 8 |

## Appendix 7

VALIDITY AND REALIBILITY IN PRE-TEST

|  |  | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Q1 | Pearson Correlation | 1 | ,132 | -,118 | ,044 | -,044 | -,118 | -,290 | ,368 | -,118 | -,203 | ,044 | -,044 | -,118 | -,290 |
|  | Sig. (2-tailed) |  | ,612 | ,653 | ,868 | ,868 | ,653 | ,259 | ,146 | ,653 | ,434 | ,868 | ,868 | ,653 | ,259 |
|  | N | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Q2 | Pearson Correlation | ,132 | 1 | -,457 | -,070 | ,310 | ,029 | ,070 | ,214 | ,029 | -,070 | -,070 | ,310 | ,029 | ,070 |
|  | Sig. (2-tailed) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | ,612 |  | ,065 | ,788 | ,226 | ,913 | ,788 | ,409 | ,913 | ,788 | ,788 | ,226 | ,913 | ,788 |
|  | N | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Q3 | Pearson Correlation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | -,118 | -,457 | 1 | -,070 | -,169 | ,029 | -,169 | -,029 | ,029 | ,169 | -,070 | -,169 | ,029 | -,169 |
|  | Sig. (2-tailed) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | ,653 | ,065 |  | ,788 | ,517 | ,913 | ,517 | ,913 | ,913 | ,517 | ,788 | ,517 | ,913 | ,517 |
|  | N | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |




|  | Sig. (2-tailed) | ,653 | ,913 | ,913 | ,000 | ,022 | ,000 | ,022 | ,065 |  | ,000 | ,000 | ,022 | ,000 | ,022 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | N | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Q10 | Pearson Correlation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | -,203 | -,070 | ,169 | .764** | ,417 | . $648{ }^{* *}$ | ,417 | ,310 | .887" | 1 | . 764 ** | ,417 | .648** | ,417 |
|  | Sig. (2-tailed) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | ,434 | ,788 | ,517 | ,000 | ,096 | ,005 | ,096 | ,226 | ,000 |  | ,000 | ,096 | ,005 | ,096 |
|  | N | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Q11 | Pearson Correlation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | ,044 | -,070 | -,070 | 1.000** | ,417 | . $648{ }^{* *}$ | ,417 | . $549{ }^{*}$ | .887** | . 764 " | 1 | ,417 | .648** | ,417 |
|  | Sig. (2-tailed) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | ,868 | ,788 | ,788 | 0,000 | ,096 | ,005 | ,096 | ,022 | ,000 | ,000 |  | ,096 | ,005 | ,096 |
|  | N | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |



|  | N | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Q15 | Pearson Correlation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | ,368 | ,214 | -,029 | .549* | ,408 | ,457 | ,169 | 1.000** | ,457 | ,310 | .549* | ,408 | ,457 | ,169 |
|  | Sig. (2-tailed) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | ,146 | ,409 | ,913 | ,022 | ,104 | ,065 | ,517 | 0,000 | ,065 | ,226 | ,022 | ,104 | ,065 | ,517 |
|  | N | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Q16 | Pearson Correlation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | -,,118 | ,029 | ,029 | . $887{ }^{* *}$ | . $549^{*}$ | . $757 \times$ | . $549^{*}$ | ,457 | 1.000** | .887** | .887** | . $549^{*}$ | . $757{ }^{* *}$ | . $549 *$ |
|  | Sig. (2-tailed) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | ,653 | ,913 | ,913 | ,000 | ,022 | ,000 | ,022 | ,065 | 0,000 | ,000 | ,000 | ,022 | ,000 | ,022 |
|  | N | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Q17 | Pearson Correlation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | -,203 | -,070 | ,169 | . 764 ** | ,417 | .648** | ,417 | ,310 | .887** | 1.000** | . $764 *$ | ,417 | . $648 *$ | ,417 |


|  | Sig. (2-tailed) | ,434 | ,788 | ,517 | ,000 | ,096 | ,005 | ,096 | ,226 | ,000 | 0,000 | ,000 | ,096 | ,005 | ,096 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | N | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Q18 | Pearson Correlation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | -,290 | ,070 | -,169 | ,417 | . $528 *$ | . $789 \times$ | 1.000** | ,169 | . $549 *$ | ,417 | ,417 | . $528 *$ | .789** | 1.000** |
|  | Sig. (2-tailed) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | ,259 | ,788 | ,517 | ,096 | ,029 | ,000 | 0,000 | ,517 | ,022 | ,096 | ,096 | ,029 | ,000 | 0,000 |
|  | N | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Q19 | Pearson Correlation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | ,368 | ,214 | -,029 | .549* | ,408 | ,457 | ,169 | 1.000** | ,457 | ,310 | . $549^{*}$ | ,408 | ,457 | ,169 |
|  | Sig. (2-tailed) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | ,146 | ,409 | ,913 | ,022 | ,104 | ,065 | ,517 | 0,000 | ,065 | ,226 | ,022 | ,104 | ,065 | ,517 |
|  | N | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |







| ,368 | -,118 | -,203 | -,290 | ,368 | -,118 | ,044 | -,044 | -,118 | -,290 | ,368 | -,118 | -,290 | ,368 | -,118 | -,290 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ,146 | ,653 | ,434 | ,259 | ,146 | ,653 | ,868 | ,868 | ,653 | ,259 | ,146 | ,653 | ,259 | ,146 | ,653 | ,259 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| ,214 | ,029 | -,070 | ,070 | ,214 | ,029 | -,070 | ,310 | ,029 | ,070 | ,214 | ,029 | ,070 | ,214 | ,029 | ,070 |
| ,409 | ,913 | ,788 | ,788 | ,409 | ,913 | ,788 | ,226 | ,913 | ,788 | ,409 | ,913 | ,788 | ,409 | ,913 | ,788 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| -,029 | ,029 | ,169 | -,169 | -,029 | ,029 | -,070 | -,169 | ,029 | -,169 | -,029 | ,029 | -,169 | -,029 | ,029 | -,169 |
| ,913 | ,913 | ,517 | ,517 | ,913 | ,913 | ,788 | ,517 | ,913 | ,517 | ,913 | ,913 | ,517 | ,913 | ,913 | ,517 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| .549* | . $887{ }^{*}$ | . $764 *$ | ,417 | . $549 *$ | . $887{ }^{* *}$ | $1.00{ }^{*}$ | ,417 | .648** | ,417 | . $549^{*}$ | .648** | ,417 | .549* | .648** | ,417 |
| ,022 | ,000 | ,000 | ,096 | ,022 | ,000 | 0,000 | ,096 | ,005 | ,096 | ,022 | ,005 | ,096 | ,022 | ,005 | ,096 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| ,408 | .549* | ,417 | .528* | ,408 | . 549 | ,417 | $1.00{ }^{* *}$ | .549* | .528* | ,408 | .549* | .528* | ,408 | .549* | .528* |
| ,104 | ,022 | ,096 | ,029 | ,104 | ,022 | ,096 | 0,000 | ,022 | ,029 | ,104 | ,022 | ,029 | ,104 | ,022 | ,029 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| ,457 | . $757{ }^{\text {** }}$ | . $648{ }^{* *}$ | .789** | ,457 | . $757{ }^{* *}$ | . $648{ }^{* *}$ | .549* | $1.000^{* *}$ | . 789 | ,457 | $1.00{ }^{* *}$ | .789** | ,457 | $1.000^{* *}$ | .789** |
| ,065 | ,000 | ,005 | ,000 | ,065 | ,000 | ,005 | ,022 | 0,000 | ,000 | ,065 | 0,000 | ,000 | ,065 | 0,000 | ,000 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| ,169 | . $549 *$ | ,417 | $1.00{ }^{* *}$ | ,169 | . $549{ }^{*}$ | ,417 | .528* | .789** | $1.000^{* *}$ | ,169 | . 789 | $1.00{ }^{* *}$ | ,169 | .789** | $1.000^{* *}$ |


| ,517 | ,022 | ,096 | 0,000 | ,517 | ,022 | ,096 | ,029 | ,000 | 0,000 | ,517 | ,000 | 0,000 | ,517 | ,000 | 0,000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| $1.00{ }^{* *}$ | ,457 | ,310 | ,169 | $1.00{ }^{* *}$ | ,457 | .549* | ,408 | ,457 | ,169 | $1.00{ }^{*}$ | ,457 | ,169 | $1.00{ }^{* *}$ | ,457 | ,169 |
| 0,000 | ,065 | ,226 | ,517 | 0,000 | ,065 | ,022 | ,104 | ,065 | ,517 | 0,000 | ,065 | ,517 | 0,000 | ,065 | ,517 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| ,457 | $1.00{ }^{* *}$ | .887** | .549* | ,457 | $1.00{ }^{* *}$ | .887** | . $549 *$ | . $757{ }^{*}$ | .549* | ,457 | . 757 ** | .549* | ,457 | . $757 *$ | . $549 *$ |
| ,065 | 0,000 | ,000 | ,022 | ,065 | 0,000 | ,000 | ,022 | ,000 | ,022 | ,065 | ,000 | ,022 | ,065 | ,000 | ,022 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| ,310 | . 887 * | $1.00{ }^{* *}$ | ,417 | ,310 | .887** | .764** | ,417 | .648** | ,417 | ,310 | .648** | ,417 | ,310 | .648** | ,417 |
| ,226 | ,000 | 0,000 | ,096 | ,226 | ,000 | ,000 | ,096 | ,005 | ,096 | ,226 | ,005 | ,096 | ,226 | ,005 | ,096 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| .549* | . $887{ }^{+}$ | . 764 ** | ,417 | .549* | . $887{ }^{*}$ | $1.000^{*}$ | ,417 | .648** | ,417 | .549* | .648** | ,417 | . $549 *$ | .648** | ,417 |
| ,022 | ,000 | ,000 | ,096 | ,022 | ,000 | 0,000 | ,096 | ,005 | ,096 | ,022 | ,005 | ,096 | ,022 | ,005 | ,096 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| ,408 | .549* | ,417 | .528* | ,408 | .549* | ,417 | $1.00{ }^{* *}$ | .549* | .528* | ,408 | .549* | .528* | ,408 | .549* | .528* |
| ,104 | ,022 | ,096 | ,029 | ,104 | ,022 | ,096 | 0,000 | ,022 | ,029 | ,104 | ,022 | ,029 | ,104 | ,022 | ,029 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| ,457 | . 757 ** | . $648{ }^{\text {+* }}$ | . $789 *$ | ,457 | . $757{ }^{*}$ | .648** | .549* | $1.00{ }^{* *}$ | . $789{ }^{\text {+* }}$ | ,457 | $1.00{ }^{* *}$ | . $789 *$ | ,457 | $1.000^{* *}$ | . 789 ** |
| ,065 | ,000 | ,005 | ,000 | ,065 | ,000 | ,005 | ,022 | 0,000 | ,000 | ,065 | 0,000 | ,000 | ,065 | 0,000 | ,000 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| ,169 | .549* | ,417 | $1.000^{* *}$ | ,169 | .549* | ,417 | .528* | .789** | $1.00{ }^{* *}$ | ,169 | .789** | $1.000^{* *}$ | ,169 | .789** | $1.000^{* *}$ |
| ,517 | ,022 | ,096 | 0,000 | ,517 | ,022 | ,096 | ,029 | ,000 | 0,000 | ,517 | ,000 | 0,000 | ,517 | ,000 | 0,000 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| 1 | ,457 | ,310 | ,169 | $1.00{ }^{* *}$ | ,457 | .549* | ,408 | ,457 | ,169 | $1.00{ }^{*}$ | ,457 | ,169 | $1.00{ }^{* *}$ | ,457 | ,169 |
|  | ,065 | ,226 | ,517 | 0,000 | ,065 | ,022 | ,104 | ,065 | ,517 | 0,000 | ,065 | ,517 | 0,000 | ,065 | ,517 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| ,457 | 1 | .887** | .549* | ,457 | $1.000{ }^{*}$ | .887** | .549* | .757** | .549* | ,457 | .757** | .549* | ,457 | .757** | .549* |
| ,065 |  | ,000 | ,022 | ,065 | 0,000 | ,000 | ,022 | ,000 | ,022 | ,065 | ,000 | ,022 | ,065 | ,000 | ,022 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| ,310 | . $887 \times$ | 1 | ,417 | ,310 | .887** | . $764 *$ | ,417 | .648** | ,417 | ,310 | . $648{ }^{* *}$ | ,417 | ,310 | . $648{ }^{* *}$ | ,417 |
| ,226 | ,000 |  | ,096 | ,226 | ,000 | ,000 | ,096 | ,005 | ,096 | ,226 | ,005 | ,096 | ,226 | ,005 | ,096 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| ,169 | .549* | ,417 | 1 | ,169 | .549* | ,417 | .528* | .789** | $1.000^{*}$ | ,169 | .789** | $1.00{ }^{* *}$ | ,169 | .789** | 1.000** |
| ,517 | ,022 | ,096 |  | ,517 | ,022 | ,096 | ,029 | ,000 | 0,000 | ,517 | ,000 | 0,000 | ,517 | ,000 | 0,000 |


| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1.00{ }^{* *}$ | ,457 | ,310 | ,169 | 1 | ,457 | . $549 *$ | ,408 | ,457 | ,169 | $1.000^{*}$ | ,457 | ,169 | $1.00{ }^{* *}$ | ,457 | ,169 |
| 0,000 | ,065 | ,226 | ,517 |  | ,065 | ,022 | ,104 | ,065 | ,517 | 0,000 | ,065 | ,517 | 0,000 | ,065 | ,517 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| ,457 | $1.00{ }^{* *}$ | . 887 ** | .549* | ,457 | 1 | .887** | .549* | . 757 ** | .549* | ,457 | . 757 | .549* | ,457 | . 757 ** | .549* |
| ,065 | 0,000 | ,000 | ,022 | ,065 |  | ,000 | ,022 | ,000 | ,022 | ,065 | ,000 | ,022 | ,065 | ,000 | ,022 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| .549* | . 887 * | . 764 ** | ,417 | .549* | . $887{ }^{* *}$ | 1 | ,417 | . $648{ }^{\text {** }}$ | ,417 | .549* | . $648{ }^{\text {"* }}$ | ,417 | . $549^{*}$ | . $648{ }^{\text {** }}$ | ,417 |
| ,022 | ,000 | ,000 | ,096 | ,022 | ,000 |  | ,096 | ,005 | ,096 | ,022 | ,005 | ,096 | ,022 | ,005 | ,096 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| ,408 | .549* | ,417 | . $528{ }^{*}$ | ,408 | . $549^{*}$ | ,417 | 1 | .549* | .528* | ,408 | .549* | . $528{ }^{*}$ | ,408 | . $549 *$ | .528* |
| ,104 | ,022 | ,096 | ,029 | ,104 | ,022 | ,096 |  | ,022 | ,029 | ,104 | ,022 | ,029 | ,104 | ,022 | ,029 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| ,457 | . $757 \times$ | . $648{ }^{* *}$ | .789** | ,457 | . 757 ** | .648** | . $549^{*}$ | 1 | .789** | ,457 | $1.000^{*}$ | .789** | ,457 | $1.000^{* *}$ | .789** |
| ,065 | ,000 | ,005 | ,000 | ,065 | ,000 | ,005 | ,022 |  | ,000 | ,065 | 0,000 | ,000 | ,065 | 0,000 | ,000 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| ,169 | .549* | ,417 | $1.00{ }^{* *}$ | ,169 | . $549^{*}$ | ,417 | . $528{ }^{*}$ | .789** | 1 | ,169 | .789** | $1.00{ }^{* *}$ | ,169 | .789** | $1.00{ }^{* *}$ |
| ,517 | ,022 | ,096 | 0,000 | ,517 | ,022 | ,096 | ,029 | ,000 |  | ,517 | ,000 | 0,000 | ,517 | ,000 | 0,000 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| $1.00{ }^{* *}$ | ,457 | ,310 | ,169 | $1.00{ }^{* *}$ | ,457 | . $549 *$ | ,408 | ,457 | ,169 | 1 | ,457 | ,169 | $1.00{ }^{* *}$ | ,457 | ,169 |
| 0,000 | ,065 | ,226 | ,517 | 0,000 | ,065 | ,022 | ,104 | ,065 | ,517 |  | ,065 | ,517 | 0,000 | ,065 | ,517 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| ,457 | . 757 ** | . $648{ }^{* *}$ | .789** | ,457 | . 757 ** | .648** | .549* | $1.000^{* *}$ | .789** | ,457 | 1 | .789** | ,457 | $1.00{ }^{* *}$ | .789** |
| ,065 | ,000 | ,005 | ,000 | ,065 | ,000 | ,005 | ,022 | 0,000 | ,000 | ,065 |  | ,000 | ,065 | 0,000 | ,000 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| ,169 | .549* | ,417 | $1.000^{* *}$ | ,169 | .549* | ,417 | . $528{ }^{*}$ | .789** | $1.000^{*}$ | ,169 | .789** | 1 | ,169 | .789** | 1.000** |
| ,517 | ,022 | ,096 | 0,000 | ,517 | ,022 | ,096 | ,029 | ,000 | 0,000 | ,517 | ,000 |  | ,517 | ,000 | 0,000 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| $1.00{ }^{* *}$ | ,457 | ,310 | ,169 | $1.00{ }^{* *}$ | ,457 | .549* | ,408 | ,457 | ,169 | $1.00{ }^{* *}$ | ,457 | ,169 | 1 | ,457 | ,169 |
| 0,000 | ,065 | ,226 | ,517 | 0,000 | ,065 | ,022 | ,104 | ,065 | ,517 | 0,000 | ,065 | ,517 |  | ,065 | ,517 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| ,457 | . $757 \times$ | . $648{ }^{\text {** }}$ | .789** | ,457 | . $757{ }^{\text {** }}$ | .648** | . $549^{*}$ | $1.000^{* *}$ | .789** | ,457 | $1.000^{* *}$ | .789** | ,457 | 1 | .789** |
| ,065 | ,000 | ,005 | ,000 | ,065 | ,000 | ,005 | ,022 | 0,000 | ,000 | ,065 | 0,000 | ,000 | ,065 |  | ,000 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |


| ,169 | .549* | ,417 | $1.00{ }^{* *}$ | ,169 | . $549^{*}$ | ,417 | . $528{ }^{*}$ | .789** | $1.00{ }^{* *}$ | ,169 | .789** | $1.00{ }^{* *}$ | ,169 | .789** | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ,517 | ,022 | ,096 | 0,000 | ,517 | ,022 | ,096 | ,029 | ,000 | 0,000 | ,517 | ,000 | 0,000 | ,517 | ,000 |  |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| .651** | . $876{ }^{* *}$ | . $733{ }^{* *}$ | . $750{ }^{*}$ | .651** | . 876 | .801** | .705** | . $910{ }^{\text {** }}$ | .750** | .651** | . $910{ }^{\text {** }}$ | . $750{ }^{* *}$ | . $651{ }^{*}$ | . $910{ }^{* *}$ | . $750{ }^{* *}$ |
| ,005 | ,000 | ,001 | ,001 | ,005 | ,000 | ,000 | ,002 | ,000 | ,001 | ,005 | ,000 | ,001 | ,005 | ,000 | ,001 |
| 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |


|  |  | Q31 | Q32 | Q33 | Q34 | Q35 | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Q31 | Pearson Correlation | 1 | .555* | ,417 | -,015 | ,091 | .611** |
|  | Sig. (2tailed) |  | ,021 | ,096 | ,953 | ,728 | ,009 |
|  | N | 17 | 17 | 17 | 17 | 17 | 17 |
| Q32 | Pearson Correlation | . $555^{*}$ | 1 | ,358 | ,099 | ,245 | .672** |
|  | Sig. (2tailed) | ,021 |  | ,158 | ,704 | ,343 | ,003 |
|  | N | 17 | 17 | 17 | 17 | 17 | 17 |
| Q33 | Pearson Correlation | ,417 | ,358 | 1 | ,015 | ,167 | . $591{ }^{*}$ |
|  | Sig. (2tailed) | ,096 | ,158 |  | ,953 | ,521 | ,013 |
|  | N | 17 | 17 | 17 | 17 | 17 | 17 |
| Q34 | Pearson Correlation | -,015 | ,099 | ,015 | 1 | .789** | .617** |
|  | Sig. (2tailed) | ,953 | ,704 | ,953 |  | ,000 | ,008 |
|  | N | 17 | 17 | 17 | 17 | 17 | 17 |
| Q35 | Pearson Correlation | ,091 | ,245 | ,167 | .789** | 1 | .737** |


|  | Sig. (2- <br> tailed) <br> N | , 728 | , 343 | , 521 | , 000 |  | , 001 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  | 17 | 17 | 17 | 17 | 17 | 17 |  |
| TOTAL | Pearson <br> Correlation | $.611^{* *}$ | $.672^{* *}$ | $.591^{*}$ | $.617^{* *}$ | $.737^{* *}$ | 1 |
| Sig. (2- <br> tailed) <br> N | , 009 | , 003 | , 013 | , 008 | , 001 |  |  |
|  | 17 | 17 | 17 | 17 | 17 | 17 |  |

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).
Reliability Statistics

| Cronbach's <br> Alpha | N of Items |
| ---: | ---: |
| .757 | 31 |

## Appendix 8

VALIDITY AND REALIBILITY IN POST-TEST




\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
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0 \\
0 \\
\\
1 \\
7 \\
\hline
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
, 0 \\
6 \\
5 \\
1 \\
7 \\
\hline
\end{array}
$$

\] \& \[

$$
\begin{aligned}
& , 0 \\
& 0 \\
& 0 \\
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$

\] \& \[

$$
\begin{array}{r}
, 0 \\
0 \\
5 \\
\\
1 \\
7
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
, 0 \\
2 \\
2 \\
1 \\
7 \\
\hline
\end{array}
$$

\] \& \[

$$
\begin{gathered}
0, \\
0 \\
0 \\
0 \\
1 \\
7
\end{gathered}
$$

\] \& \[

$$
\begin{aligned}
& , 0 \\
& 0 \\
& 0 \\
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& , 0 \\
& 6 \\
& 5 \\
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$

\] \& \[

$$
\begin{gathered}
0, \\
0 \\
0 \\
0 \\
1 \\
7 \\
\hline
\end{gathered}
$$
\] \& 0

0
0

1

7 \& $$
\begin{aligned}
& , 0 \\
& 6 \\
& 5 \\
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$ \& \[

$$
\begin{gathered}
0 \\
0 \\
0 \\
0 \\
1 \\
7
\end{gathered}
$$
\] \& 0

0
0
1
1
7 <br>

\hline \multirow[t]{2}{*}{} \& Pe ars on Co rrel ati on \& $$
\begin{array}{r}
29 \\
0
\end{array}
$$ \& \[

$$
\begin{aligned}
& \dot{0} \\
& 7 \\
& 0
\end{aligned}
$$

\] \& \[

$$
\begin{array}{r}
16 \\
9
\end{array}
$$

\] \& ,417 \& \[

$$
\begin{aligned}
& 5 \\
& 2 \\
& 8 \\
& \hline
\end{aligned}
$$

\] \& \[

$$
\begin{gathered}
.7 \\
8 \\
9^{*}
\end{gathered}
$$

\] \& 1 \& ,16 \& \[

$$
\begin{aligned}
& .5 \\
& 4 \\
& 9^{*}
\end{aligned}
$$

\] \& , 41 \& \[

$$
\begin{array}{r}
, 4 \\
1 \\
7
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
.52 \\
8^{*}
\end{array}
$$

\] \& \[

$$
\begin{gathered}
.7 \\
8 \\
8 \\
9
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
1.0 \\
00^{* *}
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
1 \\
6 \\
9
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
.5 \\
4 \\
9^{*}
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
, 4 \\
1 \\
7
\end{array}
$$

\] \& \[

$$
\begin{gathered}
1 . \\
0 \\
0 \\
0 \\
0^{+}
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
1 \\
6 \\
9
\end{array}
$$

\] \& \[

$$
\begin{aligned}
& .5 \\
& 4 \\
& 9^{*}
\end{aligned}
$$

\] \& \[

$$
\begin{array}{r}
4 \\
1 \\
7
\end{array}
$$

\] \& \[

$$
\begin{gathered}
.5 \\
2 \\
8^{*}
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
.7 \\
8 \\
9^{*}
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
1 . \\
0 \\
0 \\
0^{+}
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
1 \\
6 \\
9
\end{array}
$$

\] \& \[

$$
\begin{gathered}
.7 \\
8 \\
9 \\
\hline
\end{gathered}
$$
\] \& 1.

0
0
0

0 \& $$
\begin{array}{r}
1 \\
6 \\
9
\end{array}
$$ \& \[

$$
\begin{gathered}
.7 \\
8 \\
9^{*}
\end{gathered}
$$
\] \& 1.

0
0
0
0 <br>

\hline \& | Sig |
| :--- |
| (2tail ed) N | \& \[

$$
\begin{array}{r}
, 25 \\
9
\end{array}
$$
\]

$$
17
$$ \& \[

$$
\begin{aligned}
& 7 \\
& 8 \\
& 8 \\
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$

\] \& \[

$$
\begin{array}{r}
51 \\
7
\end{array}
$$
\]

$$
17
$$ \& , 096

17 \& $$
\begin{aligned}
& 0 \\
& 2 \\
& 9 \\
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$ \& \[

$$
\begin{gathered}
0 \\
0 \\
0 \\
1 \\
1 \\
7
\end{gathered}
$$

\] \& \[

$$
\begin{aligned}
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$

\] \& \[

$$
\begin{array}{r}
, 51 \\
7
\end{array}
$$
\]

$$
17
$$ \& \[

$$
\begin{array}{r}
0 \\
2 \\
2 \\
\\
1 \\
7 \\
\hline
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
, 09 \\
6
\end{array}
$$
\]

$$
17
$$ \& \[

$$
\begin{array}{r}
00 \\
9 \\
6 \\
\hline 1 \\
7 \\
\hline
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
, 02 \\
9
\end{array}
$$
\]

$$
17
$$ \& \[

$$
\begin{aligned}
& , 0 \\
& 0 \\
& 0 \\
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$
\] \& 0,0

00

17 \& $$
\begin{array}{r}
, 5 \\
1 \\
7 \\
\hline \\
1 \\
7 \\
\hline
\end{array}
$$ \& \[

$$
\begin{array}{r}
00 \\
2 \\
2 \\
1 \\
1 \\
\hline
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
0 \\
9 \\
6 \\
\\
1 \\
7 \\
\hline
\end{array}
$$

\] \& \[

$$
\begin{aligned}
& 0, \\
& 0 \\
& 0 \\
& 0 \\
& 1 \\
& 7
\end{aligned}
$$

\] \& \[

$$
\begin{array}{r}
, 5 \\
1 \\
7 \\
\hline \\
1 \\
7
\end{array}
$$

\] \& \[

$$
\begin{aligned}
& , 0 \\
& 2 \\
& 2 \\
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$

\] \& \[

$$
\begin{array}{r}
0 \\
9 \\
6 \\
1 \\
1 \\
\hline
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
, 0 \\
2 \\
9 \\
1 \\
7 \\
\hline
\end{array}
$$

\] \& \[

$$
\begin{aligned}
& , 0 \\
& 0 \\
& 0 \\
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$

\] \& \[

$$
\begin{gathered}
0 \\
0 \\
0 \\
0 \\
1 \\
7
\end{gathered}
$$

\] \& \[

$$
\begin{aligned}
& , 5 \\
& 1 \\
& 7 \\
& \\
& 1 \\
& 7
\end{aligned}
$$
\] \& 0

0
0
1
1

7 \& $$
\begin{gathered}
0 \\
0 \\
0 \\
0 \\
1 \\
7
\end{gathered}
$$ \& ,

1
7

1
7 \& ,
0
0
0
1
7 \& 0,
0
0
0
1
7 <br>

\hline \multirow[t]{3}{*}{} \& Pe ars on Co rrel ati on \& $$
\begin{array}{r}
36 \\
8
\end{array}
$$ \& \[

$$
\begin{aligned}
& 2 \\
& 1 \\
& 4
\end{aligned}
$$

\] \& | , |
| ---: |
| - |
| 9 | \& . $549 *$ \& \[

\left\lvert\, $$
\begin{aligned}
& 4 \\
& 0 \\
& 8
\end{aligned}
$$\right.

\] \& , 4 \& \[

$$
\begin{aligned}
& , 1 \\
& 6 \\
& 9
\end{aligned}
$$

\] \& 1 \& \[

$$
\begin{array}{r}
4 \\
5 \\
7
\end{array}
$$

\] \& , 31 \& \[

$$
\begin{aligned}
& .5 \\
& 4 \\
& 9^{*}
\end{aligned}
$$

\] \& , 40 \& \[

$$
\begin{array}{r}
, 4 \\
5 \\
7
\end{array}
$$
\] \& 16

9 \& $$
\begin{gathered}
1 . \\
0 \\
0 \\
0 \\
0^{*}
\end{gathered}
$$ \& \[

$$
\begin{array}{r}
4 \\
5 \\
7
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
3 \\
1 \\
0
\end{array}
$$

\] \& \[

$$
\begin{aligned}
& , 1 \\
& 6 \\
& 9
\end{aligned}
$$

\] \& \[

$$
\begin{gathered}
1 . \\
0 \\
0 \\
0 \\
0^{*}
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
, 4 \\
5 \\
7
\end{array}
$$

\] \& \[

$$
\begin{aligned}
& .5 \\
& 4 \\
& 9^{*}
\end{aligned}
$$

\] \& \[

$$
\begin{array}{r}
4 \\
0 \\
8
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
4 \\
5 \\
7
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
1 \\
6 \\
9
\end{array}
$$

\] \& \[

$$
\begin{gathered}
1 . \\
0 \\
0 \\
0 \\
0^{+}
\end{gathered}
$$
\] \& 4

5
7 \& ,1 \& 1.
0
0
0 \& 4
5
7 \& 1
6
9 <br>

\hline \& | Sig |
| :--- |
| (2- |
| tail |
| ed) | \& \[

$$
\begin{array}{r}
, 14 \\
6
\end{array}
$$
\] \& 4

0

9 \& $$
\begin{array}{r}
, 91 \\
3
\end{array}
$$ \& ,022 \& \[

$$
\begin{aligned}
& 1 \\
& 0 \\
& 4
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& , 0 \\
& 6 \\
& 5
\end{aligned}
$$

\] \& \[

$$
\begin{array}{r}
, 5 \\
1 \\
7
\end{array}
$$

\] \& \& \[

$$
\begin{array}{r}
, 0 \\
6 \\
5
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
, ~ 22 \\
6
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
, 0 \\
2 \\
2
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
10 \\
4
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
, 0 \\
6 \\
5
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
, 51 \\
7
\end{array}
$$

\] \& \[

$$
\begin{gathered}
0, \\
0 \\
0 \\
0
\end{gathered}
$$

\] \& \[

$$
\begin{aligned}
& , 0 \\
& 6 \\
& 5
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& 2 \\
& 2 \\
& 2 \\
& 6
\end{aligned}
$$

\] \& \[

$$
\begin{array}{r}
, 5 \\
1 \\
7
\end{array}
$$

\] \& \[

$$
\begin{gathered}
0, \\
0 \\
0 \\
0
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
, 0 \\
6 \\
5
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
, 0 \\
2 \\
2 \\
2
\end{array}
$$

\] \& \[

$$
\begin{aligned}
& , 1 \\
& 0 \\
& 4
\end{aligned}
$$

\] \& \[

$$
\begin{gathered}
, 0 \\
6 \\
5
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
, 5 \\
1 \\
7
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
0, \\
0 \\
0 \\
0
\end{gathered}
$$
\] \& ,0 \& ,

1
1
7 \& 0,
0
0
0 \& ,0 \& ,
1
7
7 <br>
\hline \& \& \& 1

7 \& 17 \& 17 \& 1 \& $$
\begin{aligned}
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$ \& \[

$$
\begin{aligned}
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$

\] \& 17 \& \[

$$
\begin{aligned}
& 1 \\
& 7
\end{aligned}
$$

\] \& 17 \& \[

$$
\begin{aligned}
& 1 \\
& 7
\end{aligned}
$$

\] \& 17 \& \[

$$
\begin{aligned}
& 1 \\
& 7
\end{aligned}
$$

\] \& 17 \& \[

$$
\begin{aligned}
& 1 \\
& 7
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& 1 \\
& 7
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$
\] \& \& \& 7 \& 7 \& 7 \& 1

7 \& 7 \& 7 \& 7 \& 7 \& 1
7 \& 7 <br>
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline | Q9 \& Pe ars on Co rrel ati on Sig (2tail ed) N \& \begin{tabular}{l}
\[
\begin{array}{r}
11 \\
8
\end{array}
\] \\
, 65
3
\[
17
\]
\end{tabular} \& \begin{tabular}{l}
\[
\begin{aligned}
\& \prime \\
\& 0 \\
\& 2 \\
\& 9
\end{aligned}
\] \\
' \\
1 \\
3 \\
1
7
\end{tabular} \& \[
\begin{array}{r}
, 02 \\
9
\end{array}
\]
\[
\begin{array}{r}
, 91 \\
3
\end{array}
\] \& \(.887 *\)

, 000

17 \& $$
\begin{aligned}
& 5 \\
& 5 \\
& 4 \\
& 9 \\
& * \\
& 2 \\
& 0 \\
& 0 \\
& 2 \\
& 2 \\
& 1 \\
& 1 \\
& 7
\end{aligned}
$$ \& \[

$$
\begin{gathered}
.7 \\
5 \\
7^{*} \\
\\
\\
0 \\
0 \\
0 \\
0 \\
1 \\
7 \\
\hline
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
.5 \\
4 \\
9^{*} \\
\\
\\
\hline 0 \\
2 \\
2 \\
1 \\
1 \\
7
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
, 45 \\
7
\end{array}
$$
\]

$$
\begin{array}{r}
, 06 \\
5
\end{array}
$$ \& 1

$$
\begin{aligned}
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$ \& .88

$7 \times$

, 00

0 \& $$
\begin{gathered}
.8 \\
8 \\
7 \\
{ }^{*} \\
\\
\\
0 \\
0 \\
0 \\
0 \\
1 \\
7 \\
\hline
\end{gathered}
$$ \& \[

$$
\begin{gathered}
.54 \\
9^{*}
\end{gathered}
$$
\]

$$
\begin{array}{r}
02 \\
2
\end{array}
$$ \& \[

$$
\begin{aligned}
& .7 \\
& 5 \\
& 7^{*} \\
& * \\
& , 0 \\
& 0 \\
& 0 \\
& 0 \\
& 1 \\
& 7
\end{aligned}
$$

\] \& \[

$$
\begin{gathered}
.54 \\
9^{*}
\end{gathered}
$$
\]

$$
\begin{array}{r}
02 \\
2
\end{array}
$$ \& \[

$$
\begin{gathered}
, 4 \\
5 \\
7 \\
\\
\\
\hline, 0 \\
6 \\
5 \\
1 \\
1 \\
7
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
1 . \\
0 \\
0 \\
0^{*} \\
. \\
0, \\
0 \\
0 \\
0 \\
1 \\
7 \\
\hline
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
8 \\
8 \\
7^{*} \\
* \\
0 \\
0 \\
0 \\
0 \\
1 \\
7
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
.5 \\
4 \\
9^{*} \\
\\
\\
\hline, 0 \\
2 \\
2 \\
\\
1 \\
7 \\
\hline
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
, 4 \\
5 \\
7 \\
\\
\\
\hline, 0 \\
6 \\
5 \\
\\
1 \\
7 \\
\hline
\end{array}
$$

\] \& \[

$$
\begin{gathered}
1 . \\
0 \\
0 \\
0^{*} \\
\\
\\
0, \\
0 \\
0 \\
0 \\
1 \\
7 \\
\hline
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
8 \\
8 \\
7^{*} \\
* \\
, 0 \\
0 \\
0 \\
\\
1 \\
7
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
.5 \\
4 \\
9^{*} \\
\\
\\
, 0 \\
2 \\
2 \\
\\
1 \\
7
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
.7 \\
5 \\
7^{*} \\
* \\
, 0 \\
0 \\
0 \\
1 \\
7 \\
\hline
\end{gathered}
$$
\] \& .5

4
9

0
2
2
2
1
7 \& ,4
5
7

0
0
6
5

1
7 \& .7
5
7

0
0
0

1
7 \& .5
4
9

0
2
2
2

1
7 \& ,4
5
7

0
0
6
5

1

7 \& $$
\begin{gathered}
.7 \\
5 \\
7^{*} \\
* \\
\\
\hline 0 \\
0 \\
0 \\
1 \\
7 \\
\hline
\end{gathered}
$$ \& .5

4
$9^{*}$

0
0
2
2
1
7 <br>

\hline \[
$$
\begin{aligned}
& \hline \text { Q1 } \\
& 0
\end{aligned}
$$

\] \& | Pe |
| :--- |
| ars |
| on |
| Co |
| rrel |
| ati |
| on |
| Sig |
| (2- |
| tail |
| ed) |
| N | \& \[

$$
\begin{array}{r}
20 \\
3
\end{array}
$$
\]

$$
\begin{array}{r}
43 \\
\hline
\end{array}
$$

$$
17
$$ \& \[

$$
\begin{aligned}
& \prime \\
& 0 \\
& 7 \\
& 0 \\
& \\
& 7 \\
& 8 \\
& 8 \\
& 1 \\
& 7 \\
& 7
\end{aligned}
$$

\] \& | $\begin{array}{r} , 16 \\ 9 \end{array}$ |
| :--- |
| ,51 |
| 7 |
| 17 | \& $.764 *$

, \& $$
\begin{array}{|l|}
4 \\
4 \\
1 \\
7 \\
\\
, \\
0 \\
9 \\
6 \\
1 \\
7
\end{array}
$$ \& \[

$$
\begin{array}{r}
6 \\
4 \\
8^{*} \\
* \\
\\
0 \\
0 \\
0 \\
5 \\
\\
1 \\
7 \\
\hline
\end{array}
$$

\] \& \[

$$
\begin{gathered}
, 4 \\
1 \\
7 \\
\\
\\
\hline 0 \\
9 \\
6 \\
\\
1 \\
7 \\
\hline
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
, 31 \\
0
\end{array}
$$
\]

$$
\begin{array}{r}
, 22 \\
6
\end{array}
$$ \& \[

$$
\begin{gathered}
.8 \\
8 \\
7_{*}^{*} \\
\\
\\
\hline 0 \\
0 \\
0 \\
1 \\
1 \\
7 \\
\hline
\end{gathered}
$$

\] \& 17 \& \[

$$
\begin{array}{r}
.7 \\
6 \\
4 * \\
* \\
\\
\hline 0 \\
0 \\
0 \\
1 \\
1 \\
7
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
41 \\
7
\end{array}
$$
\]

$$
\begin{array}{r}
09 \\
6
\end{array}
$$ \& \[

$$
\begin{array}{r}
.6 \\
4 \\
8^{*} \\
* \\
0 \\
0 \\
0 \\
5 \\
1 \\
1 \\
7
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
41 \\
7
\end{array}
$$
\]

$$
\begin{array}{r}
09 \\
6
\end{array}
$$ \& \[

$$
\begin{array}{r}
, 3 \\
1 \\
0 \\
\\
\\
\hline, 2 \\
2 \\
6 \\
\\
1 \\
7 \\
\hline
\end{array}
$$

\] \& \[

$$
\begin{gathered}
.8 \\
8 \\
7^{*} \\
\\
\\
\hline 0 \\
0 \\
0 \\
0 \\
1 \\
7 \\
\hline
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
1 . \\
0 \\
0 \\
0 \\
0 \\
\\
0 \\
0 \\
0 \\
0 \\
0 \\
1 \\
7 \\
\hline
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
, 4 \\
1 \\
7 \\
\\
\\
, 0 \\
9 \\
6 \\
\\
1 \\
7 \\
\hline
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
, 3 \\
1 \\
0 \\
\\
\\
\hline, 2 \\
2 \\
6 \\
\\
1 \\
7 \\
\hline
\end{array}
$$

\] \& \[

$$
\begin{gathered}
.8 \\
8 \\
7 \\
7 \\
. \\
\\
\hline 0 \\
0 \\
0 \\
1 \\
1 \\
7
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
.7 \\
6 \\
4 \\
4_{*} \\
\\
0 \\
0 \\
0 \\
0 \\
1 \\
7 \\
\hline
\end{array}
$$

\] \& \[

$$
\begin{gathered}
4 \\
1 \\
7 \\
\\
\\
\\
\hline 0 \\
9 \\
6 \\
\\
1 \\
7 \\
\hline
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
.6 \\
4 \\
8_{*}^{*} \\
\\
\\
\hline 0 \\
0 \\
5 \\
\\
1 \\
7 \\
\hline
\end{array}
$$

\] \& | ,4 |
| :--- |
| 1 |
| 7 |
|  |
|  |
|  |
| 0 |
| 9 |
| 6 |
|  |
| 1 |
| 7 | \& , 3

1
0

2
2
2
6

1

7 \& \[
$$
\begin{array}{r}
.6 \\
4 \\
8 * \\
+ \\
\\
\hline 0 \\
0 \\
5 \\
\\
1 \\
7 \\
\hline
\end{array}
$$

\] \& | 4 |
| :---: |
| 1 |
| 7 |
|  |
|  |
|  |
| 0 |
| 9 |
| 6 |
|  |
| 1 |
| 7 | \& \[

$$
\begin{array}{r}
, 3 \\
1 \\
0 \\
\\
\\
\hline, 2 \\
2 \\
6 \\
\\
1 \\
7 \\
\hline
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
.6 \\
4 \\
8 * \\
+ \\
\\
\hline 0 \\
0 \\
5 \\
\\
1 \\
7 \\
\hline
\end{array}
$$
\] \& $\begin{array}{r}4 \\ 1 \\ 7 \\ \\ \\ \\ 0 \\ 0 \\ 9 \\ 6 \\ 1 \\ 7 \\ \hline\end{array}$ <br>

\hline \& | Pe |
| :--- |
| ars |
| on |
| Co |
| rrel |
| ati |
| on |
| Sig | \& \[

$$
\begin{array}{r}
, 04 \\
4 \\
\\
, 86 \\
8
\end{array}
$$

\] \& \[

$$
\begin{aligned}
& 0 \\
& 7 \\
& 0
\end{aligned}
$$
\]

\[
7

\] \& | , 07 |
| ---: |
| 0 |
|  |
|  |
| 78 |
| 8 | \& $1.000 *$

0,000 \& $$
\begin{array}{|c}
4 \\
1 \\
1 \\
7 \\
2 \\
0 \\
0
\end{array}
$$ \& \[

$$
\begin{gathered}
.6 \\
4 \\
8^{*} \\
. \\
\\
\hline 0 \\
0
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
, 4 \\
1 \\
7 \\
\\
\hline 0 \\
9
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
.54 \\
9^{*} \\
\\
.02 \\
2
\end{array}
$$

\] \& \[

$$
\begin{gathered}
.8 \\
8 \\
7^{*} \\
* \\
\\
0 \\
0
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
.76 \\
4^{* *} \\
\\
, 00 \\
0
\end{array}
$$

\] \& 1 \& \[

$$
\begin{array}{r}
, 41 \\
7 \\
\\
, 09 \\
6
\end{array}
$$

\] \& \[

$$
\begin{gathered}
.6 \\
4 \\
8_{*}^{*} \\
* \\
\\
\hline 0 \\
0
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
, 41 \\
7 \\
\\
, 09 \\
6
\end{array}
$$

\] \& \[

$$
\begin{gathered}
.5 \\
4 \\
9^{*} \\
\\
\hline, 0 \\
2
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
.8 \\
8 \\
7_{*}^{*} \\
* \\
\\
\hline 0 \\
0
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
.7 \\
6 \\
4^{*} \\
\\
\\
, 0 \\
0
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
, 4 \\
1 \\
7 \\
\\
\hline, 0 \\
9
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
.5 \\
4 \\
9^{*} \\
\\
\hline, 0 \\
2
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
.8 \\
8 \\
7^{*} \\
* \\
\\
, 0 \\
0
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
1 . \\
0 \\
0 \\
0^{+} \\
\text {. } \\
0, \\
0
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
, 4 \\
1 \\
7 \\
\\
\\
\hline 0 \\
9
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
.6 \\
4 \\
8^{*} \\
* \\
\\
\hline 0 \\
0
\end{gathered}
$$
\] \& 4

1
7

0
0
9 \& .5
4
9

0
0
2 \& 6
4
8
$*$

0
0 \& 4
1
7

0
0
9 \& .5
4
9

0
2 \& . 6 \& 4
1
7

0
0
9 <br>
\hline
\end{tabular}





\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \& \begin{tabular}{l}
Sig \\
(2- \\
tail \\
ed) \\
N
\end{tabular} \& , 14
6

17 \& $$
\begin{aligned}
& 4 \\
& 0 \\
& 0 \\
& 1 \\
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$ \& , 91

3

17 \& ,022 \& $$
\begin{array}{|l}
1 \\
0 \\
0 \\
4 \\
1 \\
7 \\
\hline
\end{array}
$$ \& \[

$$
\begin{gathered}
0 \\
6 \\
5 \\
\\
1 \\
7 \\
\hline
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
, 5 \\
1 \\
7 \\
\\
1 \\
7 \\
\hline
\end{array}
$$
\] \& 0,0

00

17 \& $$
\begin{array}{r}
, 0 \\
6 \\
5 \\
\\
1 \\
7 \\
\hline
\end{array}
$$ \& ,22

6

17 \& $$
\begin{aligned}
& , 0 \\
& 2 \\
& 2 \\
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$ \& , 10

4

17 \& $$
\begin{array}{r}
, 0 \\
6 \\
5 \\
\\
1 \\
7 \\
\hline
\end{array}
$$ \& ,51

7

17 \& $$
\begin{gathered}
0 \\
0 \\
0 \\
0 \\
1 \\
7
\end{gathered}
$$ \& \[

$$
\begin{array}{r}
, 0 \\
6 \\
5 \\
\\
1 \\
7 \\
\hline
\end{array}
$$

\] \& \[

$$
\begin{aligned}
& , 2 \\
& 2 \\
& 6 \\
& \\
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$

\] \& \[

$$
\begin{array}{r}
, 5 \\
1 \\
7 \\
\\
1 \\
7 \\
\hline
\end{array}
$$
\] \& 1

7 \& ,0
6
5
5
1
1

7 \& $$
\begin{aligned}
& , 0 \\
& 2 \\
& 2 \\
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$ \& \[

$$
\begin{aligned}
& 1 \\
& 0 \\
& 4 \\
& \\
& 1 \\
& 7
\end{aligned}
$$
\] \& 0

6
5

1
7 \& ,
1
7
7
1
1

7 \& $$
\begin{aligned}
& 0, \\
& 0 \\
& 0 \\
& 0 \\
& 1 \\
& 7
\end{aligned}
$$ \& \[

$$
\begin{array}{r}
, 0 \\
6 \\
5 \\
\\
1 \\
7 \\
\hline
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
, 5 \\
1 \\
7 \\
\\
1 \\
7 \\
\hline
\end{array}
$$

\] \& \[

$$
\begin{gathered}
0, \\
0 \\
0 \\
0 \\
1 \\
7 \\
\hline
\end{gathered}
$$
\] \& 1

6
5

1
7 \& $\begin{array}{r}\text {, } \\ 1 \\ 7 \\ \\ 1 \\ 7 \\ \hline\end{array}$ <br>

\hline \multirow[t]{2}{*}{} \& Pe ars on Co rrel ati on \& $$
\begin{array}{r}
, 11 \\
8
\end{array}
$$ \& \[

$$
\begin{aligned}
& 0^{\prime} \\
& 2 \\
& 9
\end{aligned}
$$

\] \& \[

$$
\begin{array}{r}
, 02 \\
9
\end{array}
$$

\] \& .887** \& \[

$$
\begin{array}{|l}
5 \\
4 \\
9 \\
x
\end{array}
$$

\] \& \[

$$
\begin{gathered}
.7 \\
5 \\
7^{*}
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
.5 \\
4 \\
9^{*}
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
, 45 \\
7
\end{array}
$$

\] \& \[

$$
\begin{gathered}
1 . \\
0 \\
0 \\
0 \\
0
\end{gathered}
$$

\] \& \[

.88

\] \& \[

$$
\begin{gathered}
.8 \\
8 \\
7 * \\
\hline
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
.54 \\
9^{*}
\end{gathered}
$$

\] \& \[

$$
\begin{aligned}
& .7 \\
& 5 \\
& 7^{*}
\end{aligned}
$$

\] \& \[

$$
\begin{array}{r}
.54 \\
9^{*}
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
4 \\
5 \\
7
\end{array}
$$

\] \& \[

$$
\begin{gathered}
1 . \\
0 \\
0 \\
0 \\
0
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
.8 \\
8 \\
8 \\
7
\end{gathered}
$$

\] \& \[

$$
\begin{aligned}
& .5 \\
& 4 \\
& 9^{*}
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& 4 \\
& 5 \\
& 7
\end{aligned}
$$

\] \& 1 \& \[

$$
\begin{gathered}
.8 \\
8 \\
7 \\
7
\end{gathered}
$$

\] \& \[

$$
\begin{aligned}
& .5 \\
& 4 \\
& 9^{*}
\end{aligned}
$$

\] \& \[

$$
\begin{array}{r}
.7 \\
5 \\
7^{*}
\end{array}
$$

\] \& \[

$$
\begin{gathered}
.5 \\
4 \\
9^{*}
\end{gathered}
$$

\] \& \[

$$
\begin{aligned}
& 4 \\
& 5 \\
& 7
\end{aligned}
$$

\] \& \[

$$
\begin{gathered}
.7 \\
5 \\
7 \\
7
\end{gathered}
$$

\] \& \[

$$
\begin{aligned}
& .5 \\
& 4 \\
& 9^{*}
\end{aligned}
$$

\] \& \[

$$
\begin{array}{r}
4 \\
5 \\
7
\end{array}
$$

\] \& \[

$$
\begin{gathered}
.7 \\
5 \\
7^{*}
\end{gathered}
$$
\] \& .5

4
4
9 <br>

\hline \& | Sig |
| :--- |
| (2- |
| tail |
| ed) |
| N | \& 65

3

17 \& $$
\begin{aligned}
& 9 \\
& 1 \\
& 3 \\
& 3 \\
& 1 \\
& 7
\end{aligned}
$$ \& \[

$$
\begin{array}{r}
, 91 \\
3
\end{array}
$$
\]

$$
17
$$ \& ,000 \& \[

\left|$$
\begin{array}{l}
3 \\
0 \\
2 \\
2 \\
1 \\
7
\end{array}
$$\right|

\] \& \[

$$
\begin{aligned}
& 0 \\
& 0 \\
& 0 \\
& 1 \\
& 1 \\
& 7
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& , 0 \\
& 2 \\
& 2 \\
& \\
& 1 \\
& 7
\end{aligned}
$$
\] \& , 06

5

17 \& $$
\begin{gathered}
0 \\
0 \\
0 \\
0 \\
1 \\
7
\end{gathered}
$$ \& , 00

0

17 \& $$
\begin{aligned}
& , 0 \\
& 0 \\
& 0 \\
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$ \& , 02

2

17 \& $$
\begin{aligned}
& , 0 \\
& 0 \\
& 0 \\
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$ \& , 02

2

17 \& $$
\begin{aligned}
& , 0 \\
& 6 \\
& 5 \\
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$ \& \[

$$
\begin{aligned}
& 0 \\
& 0 \\
& 0 \\
& 0 \\
& 1 \\
& 7
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& , 0 \\
& 0 \\
& 0 \\
& 1 \\
& 1 \\
& 7
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& , 0 \\
& 2 \\
& 2 \\
& \\
& 1 \\
& 7
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& 0 \\
& 6 \\
& 5 \\
& \\
& 1 \\
& 7
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& 1 \\
& 7
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& , 0 \\
& 0 \\
& 0 \\
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& , 0 \\
& 2 \\
& 2 \\
& 1 \\
& 7
\end{aligned}
$$
\] \& 0

0
0
1
1 \& 0
2
2

1
7 \& 0
6
5

1
7 \& O
0
0
1
7 \& ,
2
2

1
7 \& 0
6
5

1

7 \& $$
\begin{aligned}
& , 0 \\
& 0 \\
& 0 \\
& 1 \\
& 1 \\
& \hline
\end{aligned}
$$ \& ,

2
2

1
7 <br>

\hline \multicolumn{2}{|l|}{\multirow[t]{3}{*}{| Q2 | Pe |
| :--- | :--- |
| 1 | ars |
|  | on |
|  | Co |
|  | rrel |
|  | ati |
|  | on |
|  | Sig |
|  | (2- |
|  | (2-il |
|  | tail |
|  | ed |
|  |  |}} \& ,04 \& \[

$$
\begin{aligned}
& \dot{0} \\
& 7 \\
& 0
\end{aligned}
$$

\] \& , 07 \& $1.00{ }^{* *}$ \& \[

\left|$$
\begin{array}{l}
4 \\
1 \\
7
\end{array}
$$\right|

\] \& \[

$$
\begin{array}{r}
.6 \\
4 \\
8 \\
8
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
4 \\
1 \\
7
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
.54 \\
9^{*}
\end{array}
$$

\] \& \[

$$
\begin{gathered}
.8 \\
8 \\
7 \\
\hline
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
.76 \\
4^{*+1}
\end{gathered}
$$

\] \& | 1. |
| :---: |
| 0 |
| 0 |
| 0 | \& , 41

7 \& $$
\begin{array}{r}
.6 \\
4 \\
8^{*}
\end{array}
$$ \& ,41

7 \& $$
\begin{gathered}
.5 \\
4 \\
9^{*}
\end{gathered}
$$ \& \[

$$
\begin{gathered}
.8 \\
8 \\
7 \\
7
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
.7 \\
6 \\
4 \\
\hline
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
, 4 \\
1 \\
7
\end{array}
$$

\] \& \[

$$
\begin{aligned}
& .5 \\
& 4 \\
& 9^{*}
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& .8 \\
& 8 \\
& 8 \\
& 7
\end{aligned}
$$

\] \& 1 \& \[

$$
\begin{gathered}
, 4 \\
1 \\
7
\end{gathered}
$$

\] \& \[

$$
\begin{gathered}
.6 \\
4 \\
4 \\
8^{*}
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
, 4 \\
1 \\
7
\end{array}
$$

\] \& \[

$$
\begin{aligned}
& .5 \\
& 4 \\
& 9^{*}
\end{aligned}
$$

\] \& \[

$$
\begin{array}{r}
.6 \\
4 \\
8^{*}
\end{array}
$$

\] \& \[

$$
\begin{gathered}
, 4 \\
1 \\
7
\end{gathered}
$$

\] \& \[

$$
\begin{aligned}
& .5 \\
& 4 \\
& 9^{*}
\end{aligned}
$$
\] \& 6

4
8
8 \& 4
1
7
7 <br>
\hline \& \& ,86 \& 7
8

8 \& $$
\begin{array}{r}
, 78 \\
8
\end{array}
$$ \& 0,000 \& \[

$$
\begin{aligned}
& \prime \\
& 0 \\
& 9 \\
& 6
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& , 0 \\
& 0 \\
& 5
\end{aligned}
$$

\] \& \[

$$
\begin{array}{r}
10 \\
9 \\
6
\end{array}
$$

\] \& \[

$$
\begin{array}{r}
, 02 \\
2
\end{array}
$$

\] \& , 0 \& \[

$$
\begin{array}{r}
, 00 \\
0
\end{array}
$$
\] \& 0

0
0

0 \& $$
\begin{array}{r}
, 09 \\
6
\end{array}
$$ \& \[

$$
\begin{gathered}
, 0 \\
0 \\
5
\end{gathered}
$$

\] \& \[

$$
\begin{array}{r}
, 09 \\
6
\end{array}
$$
\] \& , 0 \& ,0 \& 0

0
0 \& ,0
9

6 \& $$
\begin{array}{r}
, 0 \\
2 \\
2
\end{array}
$$ \& \[

$$
\begin{gathered}
0 \\
0 \\
0
\end{gathered}
$$

\] \& \& \[

$$
\begin{gathered}
, 0 \\
9 \\
6
\end{gathered}
$$
\] \& ,0 \& ,0

9
6 \& , 0 \& , 0 \& ,0
9
6 \& , 0 \& 1
0
0
5 \& ,0
9
6 <br>
\hline \& \& \& 1
7 \& 17 \& 17 \& 1

7 \& $$
\begin{aligned}
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$ \& \[

$$
\begin{aligned}
& 1 \\
& 7 \\
& \hline
\end{aligned}
$$
\] \& 17 \& 1

7 \& 17 \& 1

7 \& 17 \& $$
\begin{aligned}
& 1 \\
& 7
\end{aligned}
$$ \& 17 \& 1 \& 1

7 \& 1
7 \& 1
7 \& 1
7 \& 1
7 \& 1 \& 7 \& 7 \& 7 \& 7 \& 1 \& 1 \& 1 \& 1 \& 1
7 <br>
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \[
\begin{aligned}
\& \text { Q2 } \\
\& 2
\end{aligned}
\] \& \begin{tabular}{l}
Pe \\
ars \\
on \\
Co \\
rrel \\
ati \\
on \\
Sig \\
(2- \\
tail \\
ed) \\
N
\end{tabular} \& \[
\begin{array}{r}
-04 \\
4
\end{array}
\]
\[
\begin{array}{r}
86 \\
8
\end{array}
\] \& \[
\begin{aligned}
\& 3 \\
\& 1 \\
\& 0 \\
\& \\
\& \\
\& 2 \\
\& 2 \\
\& 6 \\
\& 1 \\
\& 7
\end{aligned}
\] \& \begin{tabular}{l}
\[
\begin{array}{r}
, 16 \\
9
\end{array}
\] \\
,51 \\
7
\[
17
\]
\end{tabular} \& ,417 \& \[
\left|\begin{array}{l}
1 \\
0 \\
0 \\
0 \\
0 \\
0 \\
: \\
0 \\
0 \\
0 \\
0 \\
0 \\
0 \\
1 \\
7
\end{array}\right|
\] \& \[
\begin{gathered}
.5 \\
4 \\
9^{*} \\
\\
\\
\hline 0 \\
2 \\
2 \\
\\
1 \\
7 \\
\hline
\end{gathered}
\] \& \[
\begin{gathered}
.5 \\
2 \\
8^{*} \\
\\
\\
\hline, 0 \\
2 \\
9 \\
1 \\
1 \\
7
\end{gathered}
\] \& , 40
8

, 10
4

17 \& \[
$$
\begin{gathered}
.5 \\
4 \\
9^{*} \\
\\
\\
\hline, 0 \\
2 \\
2 \\
\\
1 \\
7 \\
\hline
\end{gathered}
$$

\] \& | , 41 |
| ---: |
| 7 |
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|  |
| 09 |
| 6 | \& \[

$$
\begin{gathered}
, 4 \\
1 \\
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\\
\hline, 0 \\
9 \\
6 \\
1 \\
1 \\
7
\end{gathered}
$$
\] \& 1.0

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00

17 \& $$
\begin{gathered}
.5 \\
4 \\
9^{*} \\
\\
\\
, 0 \\
2 \\
2 \\
1 \\
7 \\
7
\end{gathered}
$$ \& \[

$$
\begin{gathered}
.52 \\
8^{*}
\end{gathered}
$$
\]

\[
$$
\begin{array}{r}
02 \\
9
\end{array}
$$

\] \& | $\begin{gathered} , 4 \\ 0 \\ 8 \end{gathered}$ |
| :--- |
| , 1 |
| 0 |
| 4 |
| 1 7 | \& \[

$$
\begin{gathered}
.5 \\
4 \\
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\hline 0 \\
2 \\
2 \\
1 \\
1 \\
7
\end{gathered}
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\begin{gathered}
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\hline, 0 \\
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\hline
\end{gathered}
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\begin{gathered}
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8^{*} \\
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\hline 0 \\
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9 \\
1 \\
7 \\
\hline
\end{gathered}
$$

\] \& | 4 0 8 |
| :--- |
| 1 0 4 |
| 1 7 | \& \[

$$
\begin{gathered}
.5 \\
4 \\
9^{*} \\
\\
\\
\hline 0 \\
2 \\
2 \\
2 \\
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7 \\
\hline
\end{gathered}
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\begin{gathered}
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\\
\hline, 0 \\
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6 \\
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7 \\
\hline
\end{gathered}
$$
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1

7 \& \[
$$
\begin{gathered}
.5 \\
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4 \\
\hline
\end{gathered}
$$

\] \& | .5 |
| :---: |
| 2 |
| 8 | \& 4

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8

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7 \& .
4
4
9

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2
2

1
7 \& .5
2
8

0
2
9

1
7 \& , 4
0
8

1
0
4

1
7 \& .5
4
9

0
2
2
2
1
7 \& .5
2
$8^{*}$

0
2
2
9
1
7 <br>

\hline \& | Pe |
| :--- |
| ars |
| on |
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| rrel |
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| on |
| Sig |
| (2- |
| tail |
| ed) |
| N | \& \[

$$
\begin{array}{r}
11 \\
8
\end{array}
$$
\]

$$
\begin{array}{r}
, 65 \\
3
\end{array}
$$

\[
17

\] \& | $\begin{aligned} & 0 \\ & 2 \\ & 9 \end{aligned}$ |
| :--- |
| ' |
| 1 3 |
| 1 7 | \& \[

$$
\begin{array}{r}
, 02 \\
9
\end{array}
$$
\]

$$
\begin{array}{r}
, 91 \\
3
\end{array}
$$

$$
17
$$ \& .648** \& \[

$$
\begin{array}{|l|}
\hline 5 \\
4 \\
9 \\
9 \\
, \\
0 \\
0 \\
2 \\
2 \\
1 \\
1 \\
7
\end{array}
$$

\] \& \[

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\begin{gathered}
1 . \\
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0, \\
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0 \\
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1 \\
7
\end{gathered}
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\] \& \[

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\begin{gathered}
.7 \\
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9^{*} \\
. \\
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0 \\
0 \\
0 \\
1 \\
1 \\
\hline
\end{gathered}
$$

\] \& | , 45 7 |
| :--- |
| , 06 5 |
| 17 | \& \[

$$
\begin{aligned}
& .7 \\
& 5 \\
& 7^{*} \\
& \\
& \\
& \hline 0 \\
& 0 \\
& 0 \\
& 1 \\
& 7 \\
& 7
\end{aligned}
$$

\] \& \[

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\begin{gathered}
.64 \\
8 *
\end{gathered}
$$
\]

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\begin{array}{r}
00 \\
5
\end{array}
$$ \& \[

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\begin{gathered}
.6 \\
4 \\
8^{*} \\
* \\
\\
\hline 0 \\
0 \\
5 \\
\\
1 \\
7
\end{gathered}
$$

\] \& | .54 |
| :--- |
| ,02 |
| 2 |
| 17 | \& \[

$$
\begin{gathered}
1 . \\
0 \\
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0^{*} \\
\\
0, \\
0 \\
0 \\
0 \\
1 \\
7
\end{gathered}
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\begin{gathered}
.78 \\
9^{* *} \\
\\
.00 \\
0 \\
17
\end{gathered}
$$

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\begin{array}{r}
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7 \\
\\
\\
, 0 \\
6 \\
5 \\
\\
1 \\
7
\end{array}
$$

\] \& \[

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\begin{aligned}
& .7 \\
& 5 \\
& 7^{*} \\
& \\
& \\
& \hline 0 \\
& 0 \\
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& 7
\end{aligned}
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\begin{gathered}
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\end{gathered}
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\begin{gathered}
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\end{gathered}
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\hline, 0 \\
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\hline
\end{gathered}
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\begin{gathered}
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\end{gathered}
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\begin{gathered}
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8^{*} \\
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7 \\
\hline
\end{gathered}
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\begin{array}{|c}
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9^{*} \\
\\
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, 0 \\
2 \\
2 \\
\\
1 \\
7
\end{array}
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7 \& $$
\begin{gathered}
.7 \\
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9^{*} \\
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7 \\
\hline
\end{gathered}
$$ \& \[

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\begin{gathered}
, 4 \\
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\hline 0 \\
6 \\
5 \\
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\end{gathered}
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\begin{gathered}
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0^{*} \\
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1 \\
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\end{gathered}
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\begin{gathered}
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9^{*} \\
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0 \\
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\hline
\end{gathered}
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\begin{gathered}
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\hline 0 \\
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\end{gathered}
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\begin{gathered}
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\end{gathered}
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\begin{aligned}
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\end{aligned}
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| on |
| Sig | \& \[

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\\
\hline
\end{array}
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\begin{aligned}
& 0 \\
& 7 \\
& 0 \\
& \\
& 7
\end{aligned}
$$

\] \& \[

$$
\begin{array}{r}
16 \\
9
\end{array}
$$
\]

51,

$$
7
$$ \& , 417

, 096 \& $$
\left|\begin{array}{l}
5 \\
2 \\
8 \\
8 \\
0 \\
0
\end{array}\right|
$$ \& \[

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\begin{gathered}
.7 \\
8 \\
9^{*} \\
* \\
\\
\hline, 0 \\
0
\end{gathered}
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\begin{gathered}
1 . \\
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0^{*} \\
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0
\end{gathered}
$$

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$$
\begin{array}{r}
16 \\
9
\end{array}
$$
\]

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\begin{array}{r}
51 \\
7
\end{array}
$$ \& \[

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\begin{gathered}
.5 \\
4 \\
9^{*} \\
\\
\hline, 0 \\
2
\end{gathered}
$$

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\begin{array}{r}
, 41 \\
7 \\
\\
, 09 \\
6
\end{array}
$$

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\begin{gathered}
, 4 \\
1 \\
7 \\
\\
\\
\hline 0 \\
9
\end{gathered}
$$
\] \& .52

8
8

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\begin{array}{r}
02 \\
9
\end{array}
$$ \& \[

$$
\begin{gathered}
.7 \\
8 \\
9^{*} \\
* \\
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\hline 0 \\
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\end{gathered}
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\begin{array}{r}
1.0 \\
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\\
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00
\end{array}
$$

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\begin{gathered}
1 \\
6 \\
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\hline, 5 \\
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\end{gathered}
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\begin{gathered}
.5 \\
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\begin{gathered}
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\hline 0 \\
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\end{gathered}
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\begin{gathered}
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\end{gathered}
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\begin{aligned}
& 1 \\
& 6 \\
& 9 \\
& \\
& \hline, 5 \\
& 1
\end{aligned}
$$

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\begin{gathered}
.5 \\
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\\
\hline, 0 \\
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\end{gathered}
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\begin{gathered}
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\hline 0 \\
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\end{gathered}
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\begin{gathered}
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8^{*} \\
\\
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\hline, 0 \\
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\end{gathered}
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\end{array}
$$

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| ---: |
| 6 |
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\begin{gathered}
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\hline 0 \\
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\end{gathered}
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$*$ \& | , 1 |
| :---: |
| 6 |
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\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \& \begin{tabular}{l}
(2- \\
tail \\
ed) \\
N
\end{tabular} \& 17 \& \[
\begin{aligned}
\& 8 \\
\& 8 \\
\& 1 \\
\& 7 \\
\& \hline
\end{aligned}
\] \& 17 \& 17 \& \[
\begin{aligned}
\& 2 \\
\& 9 \\
\& 1 \\
\& 7
\end{aligned}
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7 \& \[
\begin{aligned}
\& 0 \\
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\& 1 \\
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\& \hline
\end{aligned}
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2
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\begin{array}{r}
1 \\
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\hline
\end{array}
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\begin{aligned}
\& 1 \\
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\& \hline
\end{aligned}
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\begin{array}{r}
1 \\
7 \\
\hline
\end{array}
\] \& 17 \& 7

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\begin{aligned}
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& 7
\end{aligned}
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7
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\begin{aligned}
& 1 \\
& 7 \\
& \hline
\end{aligned}
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9
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\begin{aligned}
& 1 \\
& 7
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7 \& 1
7 \& 7
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7 \& 0
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7 \& 7
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7 \& 0

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7 \& 0
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7 <br>

\hline \multirow[t]{3}{*}{\[
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\begin{aligned}
& \mathrm{Q} 2 \\
& 5
\end{aligned}
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\]} \& | Pe |
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| rrel |
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| on | \& \[

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\begin{array}{r}
36 \\
8
\end{array}
$$

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\begin{aligned}
& 2 \\
& 1 \\
& 4
\end{aligned}
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\end{array}
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\begin{aligned}
& \prime \\
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\end{aligned}
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\begin{array}{r}
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\end{array}
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\begin{array}{r}
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\end{array}
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\begin{gathered}
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00^{* *}
\end{gathered}
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\begin{aligned}
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& 7
\end{aligned}
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\begin{array}{r}
31 \\
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\end{array}
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\begin{array}{r}
.5 \\
4 \\
9^{*}
\end{array}
$$

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\begin{array}{r}
4 \\
5 \\
7
\end{array}
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9 \& $$
\begin{gathered}
1 . \\
0 \\
0 \\
0
\end{gathered}
$$ \& \[

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\begin{array}{r}
, 4 \\
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7
\end{array}
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\begin{gathered}
3 \\
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\end{gathered}
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\begin{array}{r}
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\end{array}
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\begin{gathered}
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0^{*}
\end{gathered}
$$

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\begin{array}{r}
4 \\
5 \\
7
\end{array}
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$$
\begin{array}{r}
.5 \\
4 \\
9^{*}
\end{array}
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\begin{array}{r}
4 \\
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8
\end{array}
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\begin{array}{r}
4 \\
5 \\
7
\end{array}
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\begin{array}{r}
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\end{array}
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\begin{array}{r}
, 4 \\
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\begin{array}{r}
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\end{array}
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\begin{gathered}
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\hline \& | Sig |
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14 \\
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\end{array}
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\begin{aligned}
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& 4 \\
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\end{aligned}
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\begin{array}{r}
, 91 \\
3
\end{array}
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\begin{aligned}
& \prime \\
& 1 \\
& 0 \\
& 4
\end{aligned}
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\begin{array}{r}
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6 \\
5
\end{array}
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\begin{array}{r}
, 5 \\
1 \\
7
\end{array}
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\begin{gathered}
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\end{gathered}
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\begin{array}{r}
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6 \\
5
\end{array}
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\begin{array}{r}
22 \\
6
\end{array}
$$

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\begin{aligned}
& , 0 \\
& 2 \\
& 2
\end{aligned}
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\begin{array}{r}
10 \\
4
\end{array}
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\begin{array}{r}
, 0 \\
6 \\
5
\end{array}
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7 \& $$
\begin{gathered}
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0
\end{gathered}
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\begin{array}{r}
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6 \\
5
\end{array}
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& 6
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\hline \& N \& 17 \& $$
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7 \& 1
7 \& 1
7 <br>

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\end{aligned}
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| rrel |
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| on | \& \[

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\end{array}
$$

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\begin{aligned}
& \prime \\
& 0 \\
& 2 \\
& 9
\end{aligned}
$$

\] \& \[

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\begin{array}{r}
02 \\
9
\end{array}
$$

\] \& .648** \& \[

\left.$$
\begin{aligned}
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8 \& 7
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$9^{*}$ \& , 4
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7 \& .5
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$8^{*}$ \& .
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$9^{*}$ \& 1.
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0 \& 1
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9 \& .7
8
$9^{*}$ \& 1 \& 1
6
9 \& 7
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9 \& 1.
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\hline
\end{tabular}



$* *$. Correlation is significant at the 0.01 level ( 2 -tailed).
$*$. Correlation is significant at the 0.05 level ( 2 -tailed).

Correlations

|  |  | Q31 | Q32 | Q33 | Q34 | Q35 | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Q31 | Pearso <br> n <br> Correla <br> tion | 1 | . $555 *$ | ,417 | -,015 | ,091 | .611** |
|  | Sig. (2tailed) |  | ,021 | ,096 | ,953 | ,728 | ,009 |
|  | N | 17 | 17 | 17 | 17 | 17 | 17 |
| Q32 | Pearso <br> n <br> Correla <br> tion | . $555 *$ | 1 | ,358 | ,099 | ,245 | .672** |
|  | Sig. (2tailed) | ,021 |  | ,158 | ,704 | ,343 | ,003 |
|  | N | 17 | 17 | 17 | 17 | 17 | 17 |
| Q33 | Pearso <br> n <br> Correla <br> tion | ,417 | ,358 | 1 | ,015 | ,167 | . $591 *$ |
|  | Sig. (2tailed) | ,096 | ,158 |  | ,953 | ,521 | ,013 |


|  | N | 17 | 17 | 17 | 17 | 17 | 17 |
| :--- | :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Q34 | Pearso <br> n <br> Correla <br> tion <br> Sig. (2- <br> tailed) <br> N | ,- 015 | , 953 | , 099 | , 015 | 1 | $.789^{* *}$ |

*. Correlation is significant at the 0.05 level (2-tailed).
${ }^{* *}$. Correlation is significant at the 0.01 level (2-tailed).
Reliability Statistics

| Cronbach's Alpha | N of Items |  |  |  |
| ---: | ---: | :---: | :---: | :---: |
| 756 |  |  |  |  |

## Appendix 9

Result Validity in Pre-test

| No. | $\mathrm{r}_{\text {hitung }}$ | $\mathrm{r}_{\text {table }}$ | Description |
| :---: | :---: | :---: | :---: |
| 1 | 0.801 | 0.482 | Valid |
| 2 | 0.705 | 0.482 | Valid |
| 3 | 0.910 | 0.482 | Valid |
| 4 | 0.750 | 0.482 | Valid |
| 5 | 0.651 | 0.482 | Valid |
| 6 | 0.876 | 0.482 | Valid |
| 7 | 0.733 | 0.482 | Valid |
| 8 | 0.801 | 0.482 | Valid |
| 9 | 0.705 | 0.482 | Valid |
| 10 | 0.910 | 0.482 | Valid |
| 11 | 0.750 | 0.482 | Valid |
| 12 | 0.651 | 0.482 | Valid |
| 13 | 0.876 | 0.482 | Valid |
| 14 | 0.733 | 0.482 | Valid |
| 15 | 0.750 | 0.482 | Valid |
| 16 | 0.651 | 0.482 | Valid |
| 17 | 0.876 | 0.482 | Valid |
| 18 | 0.801 | 0.482 | Valid |
| 19 | 0.705 | 0.482 | Valid |
| 20 | 0.651 | 0.482 | Valid |
| 21 | 0.910 | 0.482 | Valid |
| 22 | 0.750 | 0.482 | Valid |
| 23 | 0.651 | 0.482 | Valid |
| 24 | 0.910 | 0.482 | Valid |
| 25 | 0.750 | 0.482 | Valid |
| 26 | 0.611 | 0.482 | Valid |
| 27 | 0.672 | 0.482 | Valid |
| 28 | 0.591 | 0.482 | Valid |
| 29 | 0.617 | 0.482 | Valid |
| 30 | 0.737 | 0.482 | Valid |
|  |  |  |  |

Appendix 10
Result Validity in Post-test

| No. | r hitung | $\mathrm{r}_{\text {table }}$ | Descriptions |
| :---: | :---: | :---: | :---: |
| 1 | 0.735 | 0.482 | Valid |
| 2 | 0.575 | 0.482 | Valid |
| 3 | 0.510 | 0.482 | Valid |
| 4 | 0.504 | 0.482 | Valid |
| 5 | 0.607 | 0.482 | Valid |
| 6 | 0.769 | 0.482 | Valid |
| 7 | 0.670 | 0.482 | Valid |
| 8 | 0.784 | 0.482 | Valid |
| 9 | 0.624 | 0.482 | Valid |
| 10 | 0.671 | 0.482 | Valid |
| 11 | 0.735 | 0.482 | Valid |
| 12 | 0.575 | 0.482 | Valid |
| 13 | 0.510 | 0.482 | Valid |
| 14 | 0.504 | 0.482 | Valid |
| 15 | 0.510 | 0.482 | Valid |
| 16 | 0.504 | 0.482 | Valid |
| 17 | 0.607 | 0.482 | Valid |
| 18 | 0.769 | 0.482 | Valid |
| 19 | 0.670 | 0.482 | Valid |
| 20 | 0.784 | 0.482 | Valid |
| 21 | 0.670 | 0.482 | Valid |
| 22 | 0.784 | 0.482 | Valid |
| 23 | 0.624 | 0.482 | Valid |
| 24 | 0.671 | 0.482 | Valid |
| 25 | 0.769 | 0.482 | Valid |
| 26 | 0.774 | 0.482 | Valid |
| 27 | 0.904 | 0.482 | Valid |
| 28 | 0.774 | 0.482 | Valid |
| 29 | 0.633 | 0.482 | Valid |
| 30 | 0.843 | 0.482 | Valid |
|  |  |  |  |

Score of Experimental Class in Pretest

| No. | The Names of Students (N) | Pre-test |
| :---: | :--- | :---: |
| 1 | Agustina Ritonga | 66 |
| 2 | Ahmad Sanri | 48 |
| 3 | Alia DelfiYanti | 56 |
| 4 | Anugrah Fitra Ananda | 72 |
| 5 | Bidasari Azhahira Rangkuti | 68 |
| 6 | Bryan Alaro Rizki Hutagaol | 60 |
| 7 | Dimas | 72 |
| 8 | DindaAmanah | 60 |
| 9 | Dinda Aulia Hannum | 70 |
| 10 | Dini Amanda | 60 |
| 11 | Eldon Shebasthian Siregar | 64 |
| 12 | Endi Renando Hutabarat | 50 |
| 13 | Geraldio Zona Lesanro Sinamo | 64 |
| 14 | Hanita Harahap | 62 |
| 15 | Hizkia Rajani | 60 |
| 16 | Hotmaida Lubis | 58 |
| 17 | Ikram | 48 |
| 18 | Johannes Aritonang | 60 |
| 19 | Joses Anugrah | 58 |
| 20 | Kholija Julianti Siregar | 58 |
| 21 | Nazwa Anggita Harahap | 66 |
| 22 | Nur Salimah | 58 |
| 23 | OktavinaSyahfitri | 70 |
| 24 | Padillah Annur | 72 |
| 25 | Risma Gustina | 56 |
| 26 | Saripah Harahap | 60 |
| 27 | Setya Aji | 62 |
| 28 | Syarif | 62 |
| 29 | Tri Tiara Putri | 72 |
| 30 | Wendi | 54 |
|  |  | 1846 |
|  |  |  |
|  |  | Total |
| 1 |  | 64 |
| 10 |  |  |

Score of Control Class in Pretest

| No. | The Names of Students | Pre-test |
| :---: | :---: | :---: |
| 1 | Abidah Purba | 56 |
| 2 | Agung Satrio | 52 |
| 3 | Aldi | 60 |
| 4 | Amran Harahap | 58 |
| 5 | Anggi Anjar Sari | 62 |
| 6 | Ari Yogi | 56 |
| 7 | Atikah Anbar S. | 70 |
| 8 | Dede Pingka Napitupulu | 44 |
| 9 | Fazilah Balqis | 58 |
| 10 | Hasnan Syauri Nasution | 68 |
| 11 | Insani Marito | 54 |
| 12 | Khairunnisa | 72 |
| 13 | Lambok Lubis | 64 |
| 14 | Mifta Rawi | 74 |
| 15 | Mubarok | 54 |
| 16 | Muhammad Imam | 66 |
| 17 | Nazwa Fadillah | 72 |
| 18 | Nazwa Sapna Dinata | 64 |
| 19 | Nur Khadijah | 72 |
| 20 | Pauziah | 70 |
| 21 | Raja Hidayat | 54 |
| 22 | Rayhan Yazid Nabil Lubis | 68 |
| 23 | Riny Atika Harahap | 58 |
| 24 | Saiful Anwar | 68 |
| 25 | Saima Putri Lubis | 58 |
| 26 | Salmina Ito Simbolon | 54 |
| 27 | Salsabila Hasibuan | 60 |
| 28 | Tiasana | 70 |
| 29 | Tiurma Pohan | 72 |
|  | Total | 1808 |

Score of Experimental Class in Post- Test

| No. | The Names of Students (N) | Post- <br> test |
| :---: | :--- | :---: |
| 1 | Agustina Ritonga | 86 |
| 2 | Ahmad Sanri | 78 |
| 3 | Alia Delfi Yanti | 80 |
| 4 | Anugrah Fitra Ananda | 92 |
| 5 | Bidasari Azhahira Rangkuti | 88 |
| 6 | Bryan Alaro Rizki Hutagaol | 80 |
| 7 | Dimas | 92 |
| 8 | Dinda Amanah | 78 |
| 9 | Dinda Aulia Hannum | 86 |
| 10 | Dini Amanda | 80 |
| 11 | Eldon Shebasthian Siregar | 82 |
| 12 | Endi Renando Hutabarat | 74 |
| 13 | Geraldio Zona Lesanro Sinamo | 82 |
| 14 | Hanita Harahap | 82 |
| 15 | Hizkia Rajani | 80 |
| 16 | Hotmaida Lubis | 76 |
| 17 | Ikram | 70 |
| 18 | Johannes Aritonang | 88 |
| 19 | Joses Anugrah | 84 |
| 20 | Kholija Julianti Siregar | 68 |
| 21 | Nazwa Anggita Harahap | 86 |
| 22 | Nur Salimah | 70 |
| 23 | Oktavina Syahfitri | 88 |
| 24 | Padillah Annur | 92 |
| 25 | Risma Gustina | 76 |
| 26 | Saripah Harahap | 70 |
| 27 | Setya Aji | 84 |
| 28 | Syarif | 82 |
| 29 | Tri Tiara Putri | 90 |
| 30 | Wendi | 68 |
|  |  | 2432 |
|  |  |  |
|  |  | Total |

Appendix 14
Score of Controll Class in Post-test

| No. | The Names of Students | Post- test |
| :---: | :---: | :---: |
| 1 | Abidah Purba | 78 |
| 2 | Agung Satrio | 76 |
| 3 | Aldi | 78 |
| 4 | Amran Harahap | 70 |
| 5 | Anggi Anjar Sari | 76 |
| 6 | Ari Yogi | 68 |
| 7 | Atikah Anbar S. | 80 |
| 8 | Dede Pingka Napitupulu | 70 |
| 9 | Fazilah Balqis | 78 |
| 10 | Hasnan Syauri Nasution | 92 |
| 11 | Insani Marito | 76 |
| 12 | Khairunnisa | 88 |
| 13 | Lambok Lubis | 70 |
| 14 | Mifta Rawi | 80 |
| 15 | Mubarok | 72 |
| 16 | Muhammad Imam | 70 |
| 17 | Nazwa Fadillah | 90 |
| 18 | Nazwa Sapna Dinata | 72 |
| 19 | Nur Khadijah | 80 |
| 20 | Pauziah | 72 |
| 21 | Raja Hidayat | 84 |
| 22 | Rayhan Yazid Nabil Lubis | 72 |
| 23 | Riny Atika Harahap | 56 |
| 24 | Saiful Anwar | 72 |
| 25 | Saima Putri Lubis | 60 |
| 26 | Salmina Ito Simbolon | 64 |
| 27 | Salsabila Hasibuan | 80 |
| 28 | Tiasana | 86 |
| 29 | Tiurma Pohan | 84 |
|  | Total | 2194 |

The Score of Pre-Test And Post-Test at Experimental Class

| No. | The Names of Students (N) | Pre-test | Post-test |
| :---: | :---: | :---: | :---: |
| 1 | Agustina Ritonga | 66 | 86 |
| 2 | Ahmad Sanri | 48 | 78 |
| 3 | Alia DelfiYanti | 56 | 80 |
| 4 | Anugrah Fitra Ananda | 72 | 92 |
| 5 | Bidasari Azhahira Rangkuti | 68 | 88 |
| 6 | Bryan Alaro Rizki Hutagaol | 60 | 80 |
| 7 | Dimas | 72 | 92 |
| 8 | DindaAmanah | 60 | 78 |
| 9 | DindaAuliaHannum | 70 | 86 |
| 10 | Dini Amanda | 60 | 80 |
| 11 | Eldon Shebasthian Siregar | 64 | 82 |
| 12 | Endi Renando Hutabarat | 50 | 74 |
| 13 | Geraldio Zona Lesanro Sinamo | 64 | 82 |
| 14 | Hanita Harahap | 62 | 82 |
| 15 | Hizkia Rajani | 60 | 80 |
| 16 | Hotmaida Lubis | 58 | 76 |
| 17 | Ikram | 48 | 70 |
| 18 | Johannes Aritonang | 60 | 88 |
| 19 | JosesAnugrah | 58 | 84 |
| 20 | Kholija Julianti Siregar | 58 | 68 |
| 21 | Nazwa Anggita Harahap | 66 | 86 |
| 22 | Nur Salimah | 58 | 70 |
| 23 | Oktavina Syahfitri | 70 | 88 |
| 24 | Padillah Annur | 72 | 92 |
| 25 | Risma Gustina | 56 | 76 |
| 26 | Saripah Harahap | 60 | 70 |
| 27 | Setya Aji | 62 | 84 |
| 28 | Syarif | 62 | 82 |
| 29 | Tri Tiara Putri | 74 | 90 |
| 30 | Wendi | 54 | 68 |
|  | Total | 1848 | 2432 |

Appendix 16
The Score of Pre-Test And Post-Test at Control Class

| No. | The Names of Students | Pre-test | Post- test |
| :---: | :---: | :---: | :---: |
| 1 | Abidah Purba | 56 | 78 |
| 2 | Agung Satrio | 52 | 76 |
| 3 | Aldi | 60 | 78 |
| 4 | Amran Harahap | 58 | 70 |
| 5 | Anggi Anjar Sari | 62 | 76 |
| 6 | Ari Yogi | 56 | 68 |
| 7 | Atikah Anbar S. | 70 | 80 |
| 8 | Dede Pingka Napitupulu | 44 | 70 |
| 9 | Fazilah Balqis | 58 | 78 |
| 10 | Hasnan Syauri Nasution | 68 | 92 |
| 11 | Insani Marito | 54 | 76 |
| 12 | Khairunnisa | 72 | 88 |
| 13 | Lambok Lubis | 64 | 70 |
| 14 | Mifta Rawi | 74 | 80 |
| 15 | Mubarok | 54 | 72 |
| 16 | Muhammad Imam | 66 | 70 |
| 17 | Nazwa Fadillah | 72 | 90 |
| 18 | Nazwa Sapna Dinata | 64 | 72 |
| 19 | Nur Khadijah | 72 | 80 |
| 20 | Pauziah | 70 | 72 |
| 21 | Raja Hidayat | 54 | 84 |
| 22 | Rayhan Yazid Nabil Lubis | 68 | 72 |
| 23 | Riny Atika Harahap | 58 | 56 |
| 24 | Saiful Anwar | 68 | 72 |
| 25 | Saima Putri Lubis | 58 | 60 |
| 26 | Salmina Ito Simbolon | 54 | 64 |
| 27 | Salsabila Hasibuan | 60 | 80 |
| 28 | Tiasana | 70 | 86 |
| 29 | Tiurma Pohan | 72 | 84 |
|  | Total | 1808 | 2194 |

Appendix 17

## RESULT OF NORMALITY TEST IN PRE-TEST

## A. Experimental Class

$$
\begin{aligned}
& \text { High }=74 \\
& \begin{aligned}
\text { Low }=48
\end{aligned} \\
& \begin{aligned}
\text { Range }(R) & =\text { high score -low score } \\
& =74-48 \\
& =26
\end{aligned}
\end{aligned}
$$

$$
\begin{aligned}
\text { Total of classes }(\mathrm{K}) & =1+3.3 \log (30) \\
& =1+3.3 \log (30) \\
& =1+3.3(1.477) \\
& =1+4.87 \\
& =5.7 \\
& =6
\end{aligned}
$$

$$
\text { Length of Classes }=\frac{\text { range }}{\text { total of classes }}=\frac{26}{6}=4.33=4
$$

Statistics

|  |  | X1 | Class Interval |
| :--- | :--- | ---: | ---: |
| N | Valid | 30 | 30 |
|  | Missing | 0 | 0 |
| Mean |  | 61,60 | 3,93 |
| Median | 60,00 | 4,00 |  |
| Mode | 60 | 4 |  |
| Sum | 1848 | 118 |  |

## Class Interval of Experimental Class

|  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: |
| Frequency | Percent | Valid Percent | Cumulative <br> Percent |  |
| Valid | $48-51$ | 3 | 10,0 | 10,0 |
|  | $52-55$ | 1 | 3,3 | 3,3 |

## B. Controll Class

High $=74$

Low $=44$

Range (R) =high score -low score

$$
\begin{aligned}
& =74-44 \\
& =30
\end{aligned}
$$

$$
\begin{aligned}
\text { Total of classes }(\mathrm{K}) & =1+3.3 \log (29) \\
& =1+3.3 \log (29) \\
& =1+3.3(1.462) \\
& =1+4.82 \\
& =5.82 \\
& =6
\end{aligned}
$$

Length of Classes $=\frac{\text { range }}{\text { total of classes }}=\frac{30}{6}=5$

Statistics

|  |  | X1 | Interval Class |
| :--- | :--- | ---: | ---: |
| N | Valid | 29 | 29 |
|  | Missing | 0 | 0 |


| Mean | 62,34 | 4,24 |
| :--- | ---: | ---: |
| Median | 62,00 | 4,00 |
| Mode | $54^{\mathrm{a}}$ | 3 |
| Sum | 1808 | 123 |

a. Multiple modes exist. The smallest value is shown

Interval Class Controll Class

|  |  | Frequency | Percent | Valid Percent | Cumulative <br> Percent |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Valid | 44-48 | 1 | 3,4 | 3,4 | 3,4 |
|  | 49-53 | 1 | 3,4 | 3,4 | 6,9 |
|  | 54-58 | 10 | 34,5 | 34,5 | 41,4 |
|  | 59-63 | 3 | 10,3 | 10,3 | 51,7 |
|  | 64-68 | 6 | 20,7 | 20,7 | 72,4 |
|  | 69-74 | 8 | 27,6 | 27,6 | 100,0 |
|  | Total | 29 | 100,0 | 100,0 |  |

C. Experimental- Controll Class Normality Result in Pre-test

Case Processing Summary

|  | Class | Cases |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Valid |  | Missing |  | Total |  |
|  |  | N | Percent | N | Percent | N | Percent |
| Result | Experimental Pretest | 30 | 100,0\% | 0 | 0,0\% | 30 | 100,0\% |
|  | Controll Class Pretest | 29 | 100,0\% | 0 | 0,0\% | 29 | 100,0\% |

Descriptives

|  | Class |  |  | Statistic | Std. Error |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Result | Experimental Pretest | Mean |  | 61,60 | 1,270 |
|  |  | 95\% Confidence Interval for | Lower Bound | 59,00 |  |
|  |  | Mean | Upper Bound | 64,20 |  |
|  |  | 5\% Trimmed Mean |  | 61,70 |  |
|  |  | Median |  | 60,00 |  |
|  |  | Variance |  | 48,386 |  |
|  |  | Std. Deviation |  | 6,956 |  |



Tests of Normality

|  | Class | Kolmogorov-Smirnov ${ }^{\text {a }}$ |  |  | Shapiro-Wilk |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Statistic | df | Sig. | Statistic | Df | Sig. |
| Result | Experimental Pretest | ,124 | 30 | ,200* | ,959 | 30 | ,284 |
|  | Controll Class Pretest | ,146 | 29 | ,116 | ,939 | 29 | ,095 |

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Appendix 18
Result of Homogeneity in Pre-Test

Test of Homogeneity of Variances
Result

| Levene Statistic | df1 | df2 | Sig. |
| ---: | ---: | ---: | ---: |
| 1,484 |  | 1 |  |

ANOVA
Result

|  | Sum of Squares | df | Mean Square | F | Sig. |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Between Groups | 8,180 | 1 | 8,180 | , 151 | , 699 |
| Within Groups | 3091,752 | 57 | 54,241 |  |  |
| Total | 3099,932 | 58 |  |  |  |

Appendix 19

## RESULT OF NORMALITY TEST IN POST-TEST

## A. Experimental Class

High $=92$

Low $=68$

Range ( R ) =high score -low score

$$
=92-68
$$

$$
=24
$$

$$
\begin{aligned}
\text { Total of classes }(\mathrm{K}) & =1+3.3 \log (30) \\
& =1+3.3 \log (30) \\
& =1+3.3(1.477) \\
& =1+4.87 \\
& =5.87 \\
& =6
\end{aligned}
$$

Length of Classes $=\frac{\text { range }}{\text { total of classes }}=\frac{24}{6}=4$

Statistics

| Statistics |  |  |  |
| :--- | :--- | ---: | ---: |
|  |  | X1 | Interval Class |
| N | Valid | 30 | 30 |
|  | Missing | 0 | 0 |
| Mean |  | 81,07 | 3,93 |
| Median | 82,00 | 4,00 |  |
| Mode | $80^{\mathrm{a}}$ | 4 |  |
| Sum | 2432 | 118 |  |

a. Multiple modes exist. The smallest value is
shown

\left.| Interval Class |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | :---: |
|  |  |  |  |  |  |
| Frequency | Percent | Cumulative |  |  |  |
| Valid Percent |  |  |  |  |  |$\right]$

## B. Controll Class

High $=92$
Low $=56$

Range ( R ) =high score -low score

$$
\begin{aligned}
& =92-56 \\
& =36
\end{aligned}
$$

Total of classes (K) $\quad=1+3.3 \log (29)$
$=1+3.3 \log (29)$
$=1+3.3(1.462)$
$=1+4.82$
$=5.87$
$=6$

Length of Classes $=\frac{\text { range }}{\text { total of classes }}=\frac{36}{6}=6$

|  |  | Statistics |  |
| :--- | :--- | ---: | ---: |
| N | Valid | Interval Class |  |
|  | Missing | 29 | 29 |
| Mean |  | 0 | 0 |
| Median | 75,66 | 3,86 |  |
| Mode | 76,00 | 4,00 |  |
| Sum | 72 | 3 |  |

Interval Class in controll class

|  |  |  |  | Cumulative <br> Percent |
| :---: | ---: | ---: | ---: | ---: |
| Valid | Frequency | Percent | Valid Percent | 6,9 |
|  | $62-67$ | 2 | 6,9 | 6,9 |
| $68-73$ | 1 | 3,4 | 3,4 | 10,3 |
| $74-79$ | 6 | 34,5 | 34,5 | 44,8 |
|  | $60-85$ | 20,7 | 20,7 | 65,5 |
|  | $86-92$ | 20,7 | 20,7 | 86,2 |
|  | 13 | 13,8 | 13,8 | 100,0 |
|  | Total | 29 | 100,0 | 100,0 |

## C. Experimental- Controll Class Normality in Post-Test

| Case Processing Summary |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Class | Cases |  |  |  |  |  |
|  |  | Valid |  | Missing |  | Total |  |
|  |  | N | Percent | N | Percent | N | Percent |
| Result | Experimental Post-Test | 30 | 100,0\% | 0 | 0,0\% | 30 | 100,0\% |
|  | Controll Post-Test | 29 | 100,0\% | 0 | 0,0\% | 29 | 100,0\% |


|  | Class |  |  | Statistic | Std. Error |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Result | Experimental Post-Test | Mean |  | 81,07 | 1,317 |
|  |  | 95\% Confidence Interval for | Lower Bound | 78,37 |  |
|  |  | Mean | Upper Bound | 83,76 |  |
|  |  | 5\% Trimmed Mean |  | 81,19 |  |
|  |  | Median |  | 82,00 |  |
|  |  | Variance |  | 52,064 |  |
|  |  | Std. Deviation |  | 7,216 |  |
|  |  | Minimum |  | 68 |  |
|  |  | Maximum |  | 92 |  |
|  |  | Range |  | 24 |  |
|  |  | Interquartile Range |  | 11 |  |
|  |  | Skewness |  | -,310 | ,427 |
|  |  | Kurtosis |  | -,749 | ,833 |
|  | Controll Post-Test | Mean |  | 75,66 | 1,563 |
|  |  | 95\% Confidence Interval for Mean | Lower Bound Upper Bound | $\begin{array}{r} 72,45 \\ 78,86 \\ \hline \end{array}$ |  |
|  |  | 5\% Trimmed Mean |  | 75,80 |  |
|  |  | Median |  | 76,00 |  |
|  |  | Variance |  | 70,877 |  |
|  |  | Std. Deviation |  | 8,419 |  |
|  |  | Minimum |  | 56 |  |
|  |  | Maximum |  | 92 |  |
|  |  | Range |  | 36 |  |
|  |  | Interquartile Range |  | 10 |  |
|  |  | Skewness |  | -,167 | ,434 |
|  |  | Kurtosis |  | ,137 | ,845 |

Tests of Normality

|  |  | Kolmogorov-Smirnov $^{\text {a }}$ |  |  | Shapiro-Wilk |  |  |
| :--- | :--- | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  | Statistic |  | df | Sig. | Statistic | df |
| Result |  | , 108 | 30 | , $200^{*}$ | , 948 | 30 | , 154 |
|  | Controll Post-Test | , 116 | 29 | , $200^{*}$ | , 977 | 29 | , 759 |

*. This is a lower bound of the true significance.

Appendix 20
Test Homogeneity of Post-Test

Test of Homogeneity of Variances
Result

| Levene Statistic | df1 | df2 | Sig. |
| ---: | :---: | :---: | :---: |
| , 429 |  | 1 |  |
| , 57 | , 515 |  |  |

ANOVA
Result

|  | Sum of Squares | df | Mean Square | F | Sig. |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Between Groups | 431,819 | 1 | 431,819 | 7,044 | , 010 |
| Within Groups | 3494,418 | 57 | 61,306 |  |  |
| Total | 3926,237 | 58 |  |  |  |

Appendix 21
The Result of Hyphothesis Analysis

## A. Pre-test

Group Statistics

|  | Class | N | Mean | Std. Deviation | Std. <br> Error <br> Mean |
| :---: | :---: | :---: | :---: | :---: | :---: |
| The Result of Students' Vocabulary Learning | Experimental Class (XIIS 3) | 30 | 61,60 | 6,956 | 1,270 |
|  | Controll Class (XI- IS 4) | 29 | 62,34 | 7,766 | 1,442 |


|  |  | Levene's Test for Equality of Variances |  | t-test for Equality of Means |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | F | Sig. | t | df | Sig. (2tailed) | Mea n Diffe renc e | Std. <br> Error <br> Differ <br> ence | 95\% Confidence Interval of the Difference |  |
|  |  | Lower |  |  |  |  |  |  | Upper |
| The Result of Students Vocabul | Equal <br> varianc <br> es <br> assum <br> ed |  | $\begin{array}{r} 1,4 \\ 84 \end{array}$ | ,228 | -,388 | 57 | ,699 | ,745 | 1,918 | -4,585 | 3,096 |
| ary Learning | Equal varianc es not assum ed |  |  | -,388 | $\begin{array}{r} 55, \\ 84 \\ 3 \end{array}$ | ,700 | ,745 | 1,922 | -4,594 | 3,105 |

## B. Post-test

Group Statistics

|  | Class | N | Mean | Std. Deviation | Std. Error Mean |
| :--- | :--- | ---: | ---: | ---: | ---: |
| The Result of Students' | Experimental Class (XI- IS 3) | 30 | 81,07 | 7,216 | 1,317 |
| Vocabulary Learning | Controll Class (XI- IS 4) | 29 | 75,66 | 8,419 | 1,563 |

Independent Samples Test

|  |  | Levene's Test for Equality of Variances |  | t-test for Equality of Means |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | F | Sig. | t | df | $\begin{gathered} \text { Sig. } \\ (2- \\ \text { tailed) } \end{gathered}$ | Mean Difference | Std. Error Difference | 95\% Confidence Interval of the Difference |  |
|  |  | Lower |  |  |  |  |  |  | Upper |
| The Result of | Equal variances |  | ,429 | ,515 | 2,654 | 57 | ,010 | 5,411 | 2,039 | 1,328 | 9,495 |
| Students' | assumed |  |  |  |  |  |  |  |  |  |
| Vocabulary Learning | Equal variances not assumed |  |  | $2,647$ | 55,072 | ,011 | 5,411 | 2,044 | 1,315 | 9,508 |

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