

# THE CORRELATION BETWEEN LEARNING STYLE AND LEARNING ACHIEVEMENT IN ENGLISH AT THE XI GRADE STUDENTS OF SMA NEGERI 1 PADANG BOLAK 

## A THESIS

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

Department

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## ENGLISH EDUCATION DEPARTMENT

## TARBIYAH AND TEACHER TRAINING FACULTY STATE INSTITUTE FOR ISLAMIC STUDIES PADANGSIDIMPUAN

2021


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## LETTER AGREEMENT

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| :--- | :--- | :--- |
| Item : 7 (seven) exemplars | a.n. Paujia Siregar |
|  | To:Dean |
|  | Tarbiyah and Teacher Training Faculty |
|  | In- $\quad$ Padangsidimpuan |

Assalamu 'alaikumwarohmatullah wabarakatuh
After reading, studying and giving advice for necessary revision on the thesis belongs to Paujia Siregar, entitled "The Correlation Between Learning Style and Learning Achievement in English at The Eleventh Grade Students of SMA Negeri 1 Padang Bolak". 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 IAIN 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 IAIN Padangsidimpuan. Thank you.

Wassalamu 'alaikumwarohmatullah wabarakatuh

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Declaring to arrange own thesis without asking for illegal helping from the other side except the guiding of advisors' team and without doing plagiarism along with the students' ethic code of IAIN Padangsidimpuan in article 14 subsections 2 .

I did this declaration truthfully, if there was a deviation and incorrect of my deciaration later on, I resigned to get the punishrnent as what had involved in students' ethic code of IAIN Padangsidimpuan in article 19 subsections 4 that was about dispossession of academic degree disrespectfully and the other punishment according to the norms and accepting legal requirement.

Padangsidimpuan, November 2021
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## AGREEMENT PUBLICATION OF FINAL TASK

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| Kind | $:$ Thesis |

To develop of science and knowledge, I hereby declare that I present to the State Institute for Islamic Studies Padangsidimpuan Non Exclusive Royalty Righton my thesis with entitled:"The Correlation Between Learning Style and Learning Achievement in English at The Eleventh Grade Students of SMA Negeri 1 Padang Bolak" With all the sets of equipments (if needed). Based on the this Non-Exclusive Royalty Right, the State Institute for Islamic Studies Padangsidimpuan has the right to save, to format, to organize in data base form, keep and publish my thesis as far as I am determined as writer and own of its creative right.

Based on the statement above all, this statement is made truthfully to be used properly.


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## LEGALIZATION

Thesis<br>:THE CORRELATION BETWEEN LEARNING STYLE AND LEARNING ACHIEVEMENT IN ENGLISH AT THE ELEVENTH GRADE STUDENTS OF SMA NEGERI 1 PADANG BOLAK<br>Written By : PAUJIA SIREGAR<br>Reg. No : 1720300057

The Thesis had been accepted as a partial fulfillment of the requirement for the degreeof graduate of Islamic education (S.Pd) in English



#### Abstract

This research focussed on the Correlation Betwee Learning Style and Learning Achievement in English at The Eleventh Grade Students of SMA Negeri 1 Padang Bolak. The students problem in this research were : 1) The students do not pay attention during studying English. 2) The teachers do not use the appropriate media in teaching English. 3) Lack of motivation. The aim of this research is to know the Correlation Between Learning Style and Learning Achievement in English at The Eleventh Grade Students of SMA Negeri 1 Padang Bolak.

This research has three formulation of the problems. They are; What are srudents learning style of SMA Negeri 1 Padang Bolak, how is the students achievement of students SMA Negeri 1 Padang Bolak in studying English, and is there a correlation between learning style and learning achievement in English at the eleventh grade students of SMA Negeri 1 Padang Bolak. The purpose of this research is to know what is students learning style of SMA Negeri 1 Padang Bolak, how is students achievement of students SMA Negeri 1 Padang Bolak, and is there a correlation between students learning style and students learning achievement in English at the eleventh grade students of SMA Negeri 1 Padang Bolak.

The kinds of this research was quantitative research with correlational method. 59 students were gotten by Slovin's Formula and choosen randomly from Clas Mia 1 until Mia 4. Researcher use lottry to choose the sampel.

To analyze the data, the reseracher use Product Moment formula. After analyzing the data, the researcher found that most of the students have auditory style. There are 50, $87 \%$ students belong to Auditory, 13, $55 \%$ students are visual, 20, $33 \%$ are Auditory and Kinesthetic, 5, $84 \%$ Visual and auditory, and 3, 38\% are visual kinesthetic. Besides, the score of of $r_{x y}$ was smaller than $r_{\text {table }} 0.121<0,2561$. The result showed that there was a correlation between two variables, but categorized into small correlation. It means the hypotheys (Ha) was rejected and (Ho) was accepted. It was concluded that there is a small correlation between learning style and learning achievement in English at the Eleventh grade students of SMA Negeri 1 Padang Bolak.


Key words: Learning Style, Learning Achievement.


#### Abstract

ABSTRAK Penelitian ini berfokus pada korelasi antara gaya belajar dan pestasi belajar siswa dalam bahasa Inggris di kelas XI SMA Negeri 1 Padang Bolak. Masalah siswa pada penelitian ini adalah; 1) Para siswa tidak memperhatikan pada saat proses belajar bahasa Inggris. 2) Guru tidak menggunakan media yang tepat dalam mengajar bahasa Ingrris. 3) Kurangnya motivasi. Tujuan dari penelitian ini adalah untuk mengetahui korelasi antara gaya belajar siswa dengan prestasi belajar siswa dalam bahasa Inggris di kelas XI SMA Negeri 1 Padang Bolak.

Penelitian ini memiliki tiga rumusan masalah, yakni apa gaya belajar siswa kelas XI SMA Negeri 1 Padang Bolak, bagaimana prestasi belajar bahasa Inggris siswa SMA Negeri Padang Bolak dan apakah ada korelasi antara gaya belajar siswa dengan prestasi belajar siswa dalam bahasa Inggris kelas XI SMA Negeri 1 Padang Bolak. Tujuan dari penelitian ini adalah untuk mengetahui gaya belajar siswa kelas XI SMA Negeri Padang Bolak, untuk mengetahui prestasi belajar siswa SMA Negeri Padang Bolak dan untuk mengetahui apakah ada korelasi antara gaya belajar dengan prestasi belajar siswa dalam bahasa Inggris kelas XI SMA Negeri 1 Padang Bolak.

Jenis penelitian ini adalah penelitian kuantitatif dengan metode korelasi. 59 siswa didapatkan dari rumus Slovin yang dipilih secara acak dari kelas XI Mia 1 sampai XI Mia 4. Peneliti menggunakan lotre dalam memilih sampel.

Untuk menganalisis data, peneliti menggunakan rumus Product Moment. Setelah melakukan analisis, peneliti menemukan kebanyakan siswa kelas XI memiliki gaya belajar Auditory. Ada 50, $87 \%$ siswa auditory, 13, 55\% visual, 20, $33 \%$ auditory dan kinestetik, 5, 84 $\%$ visual dan auditry dan $3,38 \%$ visual dan kinestetik. Selain itu, skor $\mathrm{r}_{\mathrm{xy}}$ lebih kecil dari $\mathrm{r}_{\text {table }}$ $0.121<0,2561$. Hasil tersebut menunjukkan ada korelasi antara kedua variabel namun sangat kecil. Dengan demikian, hypothesis (Ha) ditolak dan (Ho) diterima. Dapat disimpulkan bahwa ada korelasi yang sangat kecil antara gaya belajar siswa dengan prestasi belajar siswa dalam bahasa Inggris SMA Negeri 1 Padang Bolak.


Kata Kunci : Gaya Belajar, Prestasi Belajar.

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Nothing in the world is perfect, the researcher realize that there are still shortcoming in this research. Therefore, the researcher would be very grateful for correction to improve this thesis. Comments are also expected from all the readers for this thesis.

Padangsidimpuan,....... 2021
Researcher

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## TABLE OF CONTENTS

TITLE PAGE ..... i
LEGALIZATION ADVISOR SHEET ..... ii
AGREEMENT ADVISOR SHEET ..... iii
DECLARATION OF SHEET THESIS COMPLETION ..... iv
AGREEMENT PUBLICATION OF FINAL TASK FOR ACADEMIC CIVITY ..... v
SCHOLAR MUNAQOSAH EXAMINATION ..... vi
LEGALIZATION OF DECAN OF TARBIYAH AND TEACHER TRAINING FACULTY ..... vii
ABSTARCT ..... viii
ACKNOWLEDGEMENT ..... ix
TABLE OF CONTENTS ..... xii
LIST OF TABLES ..... xiv
LIST OF FIGURES ..... xv
LIST OF APPENDIXES. ..... xvi
CHAPTER I : INTRODUCTION
A. Background of the Problem ..... 1
B. Identification of the Problem ..... 4
C. Limitation of the Problem ..... 4
D. Formulation of the problem ..... 5
E. Purpose of the Problem ..... 5
F. Significances of the Research ..... 6
G. Outline of Thesis ..... 6
CHAPTER II : LITERATURE REVIEW AND HYPOTHESIS
A. Theoretical Description ..... 8

1. Learning Achievement ..... 8
a. Definition of Learning Achievement ..... 8
b. Aim of Learning Achievement ..... 9
c. Factors that Effect Learning Achievement ..... 10
d. Advantages of Learning Achievement ..... 15
e. Characteristic of Learning Achievement ..... 16
2. Learning Style ..... 17
a. Definition of Learning Style ..... 17
b. Aim of Learning Style ..... 19
c. Factors that Effect Learning Style ..... 20
d. Kinds of Learning Style ..... 20
e. Advantages of Learning Style ..... 23
f. Characteristic of Learning Style ..... 23
B. Review of Related Finding ..... 25
C. Framework of Thinking ..... 27
D. Hypothesis ..... 28
CHAPTER III: RESEARCH METHOD
A. Place and Time of Research ..... 29
B. Research Method ..... 29
C. Population and Sample ..... 29
3. Population ..... 29
4. Sample ..... 30
D. Definition of Operational Variables ..... 31
5. Variable X ..... 31
6. Variabel Y ..... 31
E. Instrument of the Research ..... 31
7. Questionnaire ..... 31
8. Document ..... 33
F. Validity and Reliability Instrument ..... 33
G. Technique of Data Collecting ..... 34
H. Technique of Analysis Data ..... 35
CHAPTER IV: THE RESULT OF RESEARCH
A. The Description of Data ..... 37
B. Testing Hypothesis ..... 41
C. The Discussion of Result. ..... 46
D. Limitation of Research ..... 49
CHAPTER V : THE CONCLUSION AND SUGGESTION
A. Conclusion ..... 51
B. Suggestion ..... 52

REFERENCES
APPENDIXES
CURRICULUM VITAE

## LIST OF TABLE

Table 1 Indicator of Subordinating Conjunction ..... 32
Table 2 Indicator of Subordinating Conjunction ..... 32
Table 3 Indicator of Writing Nou Clause. ..... 33
Table 4 Table Interpretation of XY. ..... 36
Table 5 The Resume of Variable Score of Subordinating Conjunction. ..... 38
Table 6 The Frequency Distribution of Subordinating Conjunction. ..... 39
Table 7 The Resume of Variable Score of Writing Noun Clause ..... 40
Table 8 The Frequency Distribution of Writing Noun Clause ..... 41
Table 9 Normality and Homogenity Data X dan Data Y ..... 42
Table 10 Categories Value Correlation Coefficient and Strength Correlation. ..... 44

## LIST OF FIGURES

Figure 1 Description Data of Subordinating Conjunction
Figure 2 Description Data of Writing Noun Clause Mastery

## LIST OF APPENDIXES

| Appendix 1 | : Instrument of Subordinating Conjunction |
| :--- | :--- |
| Appendix 2 | : Key Answer of Subordinating Conjunction |
| Appendix 3 | : Result Test of Subordinating Conjunction |
| Appendix 4 | : Instrument of Writing Noun Clause Mastery |
| Appendix 5 | : Calculation of The Formulation r |
| Appendix 6 | : Table Validity of Pre-Test |
| Appendix 7 | : The Scores of Students Subordinating Conjunction |
| Appendix 8 | : The Scores of Students Writing Noun Clause Mastery |
| Appendix 9 | : Data Analysis of Subordinating Conjunction |
| Appendix 10 | : Data Analysis of Writing Noun Clause Mastery |
| Appendix 11 | : Normality Test |
| Appendix 12 | : Homogenity Test |
| Appendix 13 | : The Result of Variable X and Variable Y |
| Appendix 14 | : Analysis Data of Product Moment |
| Appendix 15 | : Nilai-Nilai Distribusi T |
| Appendix 16 | : Nilai-Nilai r Product Moment |
| Appendix 17 | : Research Documentation |

## CHAPTER I

## INTRODUCTION

## A. The Background of the Problems.

English is one of the International languages in the world. Many countries used this language as an obligatory subject in school and use it as communication language in international business. In addition, Indonesian schools applied English as an obligatory subject which is in junior high school and senior high school. Indonesian society and the goverment are realised that studying foreign language are really important nowadys.

There are four English material in the curriculum. They are listening, speaking, reading, and writing. Listening and reading called receiptive skill, speaking and writing are productive skill. Another element of English material are vocabulary and grammar. These four skills are have to be mastered by the students in order to gain the good achievement in English.

Related to the statement above, learning achievement refers to the result of the students in the period of time. the measurement to know whether the students understand or not with the lesson. In addition, every schools have different style to asses the students achievement.

As mentioned above, learning achievement is essential in learning process, especially in English. Learning achievement not only a mark or
number. However, it is needed to know the students ability in understanding the material. Having a good achievement give some benefit for the students. For Instance, make the students more confident, easier to continou the study and for the future of the students.

In addition, to gain the good achievement in English, the government had changed the curriculum several times in order to know the appropriate one for the students. Then, the school has been trying to help students learn by providing the confortable environment. The school limit the capacity of the students in the classroom which only thirty till thirty five in a class. Next, teacher as a main role in the classroom trying to teach the students as good as possible. After studying, teachers will ask the students whether understand or not with the lesson. Giving task after the teachinglearning process .

Those are some ways that has been proposed to increase the students achievement in English. On the other hand, eventhought it has been applicated, the students achievement are still lack. Some students are still lack of motivation, and do not do the homework.

Based on the interviewed with the English teacher of SMA Negeri 1 Padang Bolak, the researcher found some problems. "The students do not pay attention during learning process, the teachers do not use the appropriate media to support teaching, and students are lack of
motivation" ${ }^{1}$. Those problems above are made students achievement are less.

Related to the statement above, learning achievement is the result of the students learning activity in the period of time. "Some factors that effect students achievement are internal factors and external factors." ${ }^{2}$ Internal factors are come from the inner self of the students such as psychology and physiology while external factors come from the outside of the students, such as environtment, learning approach, using time, and so on. Some factors that effect leaning style are: "Physical factors, visual or hearing impairment, psychological factors like attitude, motivation, and environmental factors like classroom atmosphere and even the personality of the teacher influence the student's learning. Similarly, gender is one such factor that affects the student's learning style." ${ }^{3}$

Then, learning style is how the students learn based on their own way."learning style refers to the personality, intelectual development, motivation, self-concept, types of processing and hemispheric specialitation" ${ }^{4}$. This research will discuss about fleming learning style which consist of three kinds, such as visual, auditory and kinesthetic.

[^0]The role of learning style in learning achievement is as the key of succesfull teaching learning process. Learning style has a role in coordinating the teaching learning process with the students learning preference.

In addition, this research will proof the Hadriana theory which said that there is correlation between learning style and learning achievement in English. Pertaining with the statement before, the researcher is interested to do research about learning achievement with in English entitled " The Correlation Between Learning Style and Learning Achievement In English at the XI Grade Students of Sma Negeri 1 Padang Bolak".

## B. Identification of the Problem

Learning achievement is the result of the students in a period of time. It is used to know wheter the students understand or not with the lesson. the achivevemen is the measurement of the ability of the students.

Based on previous paragraph, this research found some problems. They were; 1) The students do not pay attention during studying English. 2) The teacher do not use the appropriate media in teaching English. 3) Students are lack of motivation.

So, based on the explanation above, researcher would investigate wheter there is correlation or not between learning style and learning achievement in English.

## C. Limitation of the Problem

There are lots of kinds of learning style based on each expert such as visual, aural, physical, verbal, logical, social learners, solo lerners, and natural learners. Those learning style above was created by Garden. Another opinion about learning style is fleming model which is auditory, kinesthetic, and visual.

Then, this research not discuss all of the factors above, the researcher only focus on the significant correlation between learning style and learning achievement students in English. In addition, to know the students learning style, this research used fleming's theory which is auditory, visual and kinesthetic.

## D. Formulation of the Problem

The formulations of the problem in this research are:

1. What are students' learning style of SMA Negeri 1 Padang Bolak?
2. How is the students' achievement of the students SMA Negeri 1 Padang Bolak in English?
3. Is there any significant correlation betweeen learning style and learning achievement students in English at XI Mia 1 SMA Negeri 1 Padang Bolak.

## E. The Purpose of the Research

Based on the formulation of the problem, so the purpose of this research are:

1. To find out the student's learning style of XI Mia 1 SMA Negeri 1 Padang bolak.
2. To know the student's achievement in learning english at XI Mia 1 SMA N 1 Padang bolak.
3. To examine whether there is significant correlation between students learning style and learning achievement in English.

## F. Significances of the Research

The significances of this research are:

1. For teachers, this study as the information to make teaching learning process be better.
2. For Head Master, this research as the information and knowledge about learning style and learning achievement in English.
3. Other researcher, this research as the references for the further related studies and as a knowledge in educational field.

## G. Outline of the Thesis

The systematic of this thesis was devided into five chapters. Chapter one contains background of the problem, identification of the problem, limitation of the problem, defenition of operational variables, formulation of the problem, the objectives of the problem, the aim of the research, and significances of the research.

The second chapter consist of theoritical description, refiew of related findings, conceptual frame work and hypothesis. The third chapter consists of the research methodology; place and time of the research, research
design, population and samples, definition of operational variables, instrument of research, validity and reliability of instrument, and techniques of analysis data.

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

Chapter five consists of the conclusion about the result of this research and suggestion that are given by the research.

## CHAPTER II

## LITERATURE REVIEW

## A. Theoretical Description

## 1. Learning Achievement

a. Definition of Learning Achievement

Achievement is the result of the performance and effort in a period of time. Students learn best by the information presented in the classroom. When the material, not in their favor, they will not learn it. ${ }^{5}$ Everyone has different achievement, based on their effort. In education, achievement is the result of the learning process of the students that approve by the score or grade. It can be represented by a number, alphabet, and etcetera. Based on KBBI, achievement is the result that has been done. Achivement not always refers to the education. ${ }^{6}$ It has been wide scope such as business, career, and etcetera.

A successful learning process can be seen from the students achievement. ${ }^{7}$ Learning achievement using as indicator to know wheter the students and the teaching learning process running well or not. Learning achievement is the Achievement of the phase or performance toward tasks, skill, and expertise obtained through education or academic levels. Djamarah said that

[^1]academic achievement also described the results obtained on impressions that change the individual as the end of learning activities. ${ }^{8}$ Achievement is related to the result of the students in a period of time. Teachers may give the result in score, or alphabet by looking the students ability in the classroom and examination.

Moreover, the usefullness of educational result has to be focused on learning outcome, which mention as follows: 1) provide direction and guidance in the implementation of education, (2) determine a student's self-image regarding the development of their capabilities, (3) as inputs to improve the teaching process. ${ }^{9}$

From the statement above, it can be inferred that students learning achievment is the result of the students effort in learning process.
b. Aim of Learning Achievement

Having a good achievement must be useful for everyone include for students. By having a good achievement, students can use it for continouing the study. Next, an achievement also can be used for applying job, scholarship and etc.

Based on Mohammad Zaiful Rosyid and Aminol Rosyid, the purpose of learning achievement is to implement educative

[^2]learning in order to help the learners develop their goals ${ }^{10}$, so students can be ready for facing the next education.

Pertaining with those statements above, it has been known that learning achievement can be used for continouing education and implement educative learning in order to make students ready in facing the era. Learning achievement need to continou study, and most of the job vacancy are required an achievement such as grade to apply in the company.
c. Factors that Effect Learning Achievement

Factors in learning achievement refers to the all things that support students achievement. In Learning proses, this factor include Internal factors and external factors which explain as follow.

1) Internal Factors

Internal factors are come from the inner self of the students. These factors include:
a) Physical factors

Physical factors refers to the fitness, body condition of the students. This factor may influence their performance in teaching-learning process.
b) Psychologycal factors

[^3]Psychologycal factors are opposed to biological factors-that contribute to the development of personality, the maintenance of health and well-being, and the etiology of mental and behavioral disorder. A few examples of psychological factors are the nature of significant childhood and adult relationships, the experience of ease or stress in social environments (e.g., school, work), and the experience of trauma. ${ }^{11}$

## a. External Factors

External factors are come from outside of the students. These factors are:
a) Social environment.

Social environment is the factor that come from the outside of the students. It is such the friends, home, or the condition of the surroundings.
b) non social environment.

Non social environment means that factor come from the inner-self of the students.
c) learning approach
learning approach related to the method, technique. And the way students learn. These factors can affect their achievement in teaching-learning process.
d) body condition

[^4]Body condition affect the students in absorb the material in school, and of course it also will effect the students achievement. e) social emotional condition

The social emotional condition give the students space to taking de good decision so that it can effect their chievement in studying English.
$\mathrm{g})$ the begining of studying.
All the beginning is hard, but it can determine the future of your study.
h) Division of task.

As a student, the task exist to see how far students understand with the lesson. Students must finish the task to see their achievement.
i) doing control.

Control means the students know how to manage the emotion, and the things that useless to do.
j) build optimist mindset.

Optimist mindset need to make students step forward and no give up.
k) using time

Managing time is very important. A good managing time can minimize the useless activity and it can make students more productive.

1) the way to study a book

The way to study book means with the previous points which is the technique, method, and the students habit in learning.
$\mathrm{m})$ hasten the reading
Hasten reading means how fazt the students read and get the point through the text. ${ }^{12}$

On the other hand, these are some factors that achieved students achievement based on Djali.
a) Motivation

Motivation is anything that make you become enjoy with something. In this case, what make become more diligent, more enjoy, it called motivation. Based on Sumardi suryabrata in Djaali, motivation is the condition in someone it self that push her/him to do the certain activity in order to gain a certain purpose. Based on Djaali, motivation is the condition of physiology and physicology in someone itself that push her/him to do the certain activity in order to rasise a purpose. Motivation is related to the goal of someone. To gain the goal, it need an action. Then the cause of action is motivation itself.
b) Attitude

Attitude in learning refers to the character of the students in the classroom. How their attitude in getting the material and

[^5]response in learning process. Learning attitude is attitude of someone when she/he study about academic things. In order to gain the good result. Everyone has to have the good attitude in order to get the positive effect in learning process.
c) Interest

Interest refers to the desire of someone. It can give the postive impact in someone learning achivement. Interest can be expressed by the statement that students prefer to something than others. In this case, students may like math and not like language. Interest not bring from birth, but getting later.
d) Study habit

Study habit become one of the factor in students learning achievement. Based on kbbi, habit is something that usually do. Hence, study habit is something that someone do in previous time and it become habit. Study habit has to build in order to get a good result.
e) Self concept

Self concept is the mindset of someone about himself. Then, self concept define as the totality of a complex, organized, and yet dynamic system of learned attitudes, beliefs, and evaluative judgments that people hold about themselve. Self concept can affected students learning achievement. ${ }^{13}$

[^6]Pertaining with statement above, it can be concluded that internal and external factors are influence someone achievement. internal factors related to the students selves, while external faxtors come from the out of the students. internal factors such as Phisiological factors and Psychology factors and external factors include surrounding, motivation, learning approach, and etc.
c) Advantages of Learning Achievement

Every single students must want a good achievement in shool. Students are trying to give the best to gain a good achievement. Some are studying harder, following some courses, or any things that use to increase the students achievement.

In addition, having a good achievement for some people are really useful. Achievement can be used as self -reflection for students, and evaluate their performance in schools so they can improve their ability to increase their achievement. Based on Arifin, here are some advantages of learning achievement:

1) Learning achievement as quality indicator and quantity of knowledge that have been mastered by the students.
2) Learning acievement as the symbol of gratification of curiosity. It also call tendency of curiosity and it is the general human needs
3) Learning achievement as material information for educational information.
4) Learning achievement as an internal and eksternal indicator from an educational institution.
5) Learning achievement can be used as an indicator for the intelligence of the students. ${ }^{14}$

From those points, it can be inferred that learning achievement can be used as an indicator to measure the students ability in learning process. This measurement may usefull for the institution and schools to know the students intelligence.
d) Characteristic of Learning Achievement

Every students has different achievement. someone who has the good achievement will has different characters from other students. Here are the characteristic of sudents who has the good achievement: 1) Discipline, 2) honest, 3) tolerance, 4) keen on reading, 5) caring in social , 6) responsible, 7) caring in the environtment, 8) comunicatife, 9) love the nation, 10) iIndependent 11) creative, 12) spirit, 13) religious, 14) democratis, 15) curiosity 16) hard worker, 17) love the achievement, and 18) love the peace ${ }^{15}$

From thoose point, it can be concluded that someone who has the good achievement will have the good attitude and most of them follow the rules in society as well.

[^7]
## 2. Learning Style

a. Definition of Learning Style

Learning style refers to the students preference in learning process. Peacock stated that learning style is a natural and widely preferred way for students to absorb the process and maintain information. ${ }^{16}$ Learning style has wide . It has different opinion based on each expert. Here are some definitions of learning style based on the expert.

Dunn and Shierly said that learning style is a "biologically and developmentally imposed set of characteristic that make the same teaching method wonderful for some and terrible for others. ${ }^{, 17}$ Based on that statement, it can be inferred that learning style is the way students learn based their preference in schools.

Next, learning style is different with understanding the material from one student to another cause types of this learning focus on cognitive, affective, social, and psychological behavioral characteristics as a student accepts and responds in a learning environment. Brown defines learning styles as the manner in which individuals perceive and process information in learning situations. He argues that learning styles preference is one aspect of learning

[^8]styles, and refers to the choice of onelearning situation or condition over another. ${ }^{18}$ The student believes that learning style as a general approach so that able to build fair participation in classroom assignment based on the method used by the teacher in the present in class. ${ }^{19}$

Then, in Tilly Mortimore of view, learning style refers to behavior of someone. Tilly Mortimore go with Piaget theory which said that learning style refers to the age of someone. In addition, it also said that "style evolves from stage to stage throughout a learner's life-time to achieve maturity. ${ }^{\prime 20}$ It can be inferred that learning style related to the behavior and age. Additionally, Nasution stated that learning style is students method of receiving material in the process of the learning. ${ }^{21}$ Sensory style describe the characteristic of each style of a learner. It means that students has different style which based on their characteristic. Then, Based on Reid's point of view about learning style characteristics, there are three parts: such as visual learning, auditory learning, and kinesthetic learning.

[^9]${ }^{22}$ Next, based on Fleming model learning style devided into three kinds which call VAK learning style. In addition, "V" stands for visual, "A" stands for auditory, and " K " is kinesthetic.

In addition, Based on the characteristic students' learning styles, each class on a different level. Learning style is a suitable factor to understanding and knowing ability in maximizing student's learning and experts the value that students can be organized and analyzed process information in different ways. ${ }^{23}$

From some definition above, it can be concluded that learning style is how the students learn based on their own way. It related to the behavior, character, and the maturity of students. Every single students has different style in learning. So, teachers must know it in order to make teaching-learning process running well.

Then, this research not focus on the characteristic of the students. the researcher only focus to the achievement which is the students' score in English.
b. Aim of Learning Style

Learning style become an important especially in educational field. It is a key in teching-learning process. Learning style will be useful for educational In the future. Knowing students

[^10]learning style will make students know their own way in learning process.

Learning style is aimed to find the best way for students to study effectively and for teachers to teach efficiently. ${ }^{24}$ When the teaching learning process effective and efficient, learning achievement of the students will be increased.
c. Factors that Effect Learning Style

Students have their preference in learning affect by some factors. Those factors different from one expert to another expert which mention as follows:

1) Environment (sound, light, temperature, seating design).
2) Emotionality (motivation, task persistence, responsibility/conformity, structure).
3) Sociological preferences (learning alone, in pairs, in a small group of peers, as part of a team, with an adult, with variety or routines).
4) Physiological characteristics (perceptual strengths, time of day, need for intake, mobility while learning).
5) Psychological processing inclinations (global/analytic, impulsive/ reflective). ${ }^{25}$

Based on those points above, some students prefer to study with the good lighting, while others prefer to have use sound or without sound and etc.
d. Kinds of Learning Style

There are lots of kinds of learning style based on each expert. It can be grouped based on the personality and media.

[^11]According to Jungs theory, who devided learning style based on the personality, learning style devided into two kinds, which is individual and group style. Individual style refers to someone preference learning by itself. This belong to introvert, extravert, and ambivert learner. Then, grouping style refers to to the people who tend to like group discussion and interact with eacht other.
a. Individual style

Some students are prefer studying alone rather than join with others. This kind of learning style usually belong to the students who has introvert characters. They do not like bustl because they cannot absorb the information in that situation.
b. Grouping Style

Beside individual style, some students prefer to the grouping style. These students usually have extrovert characters which like talking and interact with others.

Here are the following of learning style:
Based on Dunn and Griggs, learning style divided into five model. They are "Environmental, emotional, sociological, physiological, and psychological. ${ }^{, 26}$ Environment related to the sound, temperature, light and design. Then, Emotional related to the motivation, persistence, responsibility and structure. Next, sociological consist of pair, self, adult and team. Physiological

[^12]refers to the perceptual, time, and mobility. From those points, it can be seen that every person has their strength model and it is different from each other.

Then, based on Hagart, learning style consist of kinesthetic, tactual, auditory and visual. The kinesthetic learner is the student who has to move (the one who really likes action).

The tactual learner feels everything deeply. This learner maybe described as the sensitive student ${ }^{27}$. Next, the auditory learner is someone who preferred to study by talking and listening. The last, the visual learner is someone who tend to study by seeing. They use their eyes mostly to get the information. Those learning style

Moreover, fleming said, there are three kinds of learning style which also called VAK model. It consist of visual, auditory, and kinesthetic. Visual is the students who tend to use eyes to get the information. Then, audio refers to the students who tend to use ear in learning process. The last, kinesthetic learner is the learner who like movement, and practicing to gain the knowledge while teaching-learning process.

From those kinds of learning style above, this research not use all those kinds of learning style. This research only used Fleming model which also called VAK model that consist of visual, auditory, and kinesthetic.

[^13]e. Advantages of Learning Style

Every single student has different style in learning. It was important to know what kinds of learning style they have. Knowing that learning style, will make students maximizing their performance in schools. Moreover, students will find the learning strategies by knowing the kinds of learning style they have, so their achievement can be increased. Based on Pangesti Wiedarti, by knowing the students learning style, students can absorb the information maximally based on each learning style. For teachers, knowing the students learning style, teachers can facilitate the classroom based on the students learning style ${ }^{28}$ Learning style is important for students and teachers, knowing the kinds of learning style of the learner will make teachers easier implemented the technique and method and students can absorb the information maximally so their learning achievement can be raised.
f. Characteristic of Learning Style.

The characteristif of learning style refers to the learners. According to Daniela and Elena, here are some characteritic of learning style:

1) Visual Learners

Visual learners are think in pictures. Mind sometimes strays during verbal activities. Observes rather than talks or acts.

[^14]Organised in approach to tasks. Likes to read and remember faces. Visual learners tend to use their eyes in teaching learning process. Individuals who have a visual learning style will have characteristic as follows:
a) Neat and tidy
b) Speaking quickly
c) Planner and regulator of long-term is good
d) Meticulous to detail
e) Concerned with the appearance, both in term of closing and presentation.
f) Good speller and can see the actual words in their minds
g) Given what is seen and what is seen rather than what is hear. ${ }^{29}$

Those are some character of visual learners which tend to use their eyes while teaching-learning process.
2) Auditory Learners

Auditory learners tend to use their ear rather than eyes. These kind of students like listening to the teacher explanation. The characteristic of these students are:
a) Talks to self a loud
b) Easily distracted by a commotion
c) They move their lips and read out loud when reading
d) Glad to read a loud and listen
e) Can repeat back and mimicked the tone, rhtyme and timbre
f) Find it difficult to write, but great story telling
g) Speaking in a patterned rhytm
h) Enjoys music
i) Remember faces ${ }^{30}$

[^15]Auditory learners no need to read. They prefer to listening e-book and all the things that involved hearing.
3) Kinesthetic Learners

Kinesthetic Learners like practice rather than sitting and listening to the teacher. All the activities that involved body movement will belong to this kind of learning style. Here are some character of kinesthetic learners:
a) Speak slowly
b) Will try new things
c) Responding to physical attention
d) Touching people to get their attention
e) Stand close when talking to people
f) Always physically oriented and a lot of movies ${ }^{31}$

Based on the statement above, it can be inferred that there are three kinds of learning style by fleming. They are; visual, auditory and kinesthetic. Visual learners tend to use their sight in learning. Then, Auditory learners mostly use their ear while kinesthetic learners like something that involved body movement in getting information.

## B. Review of Related Findings

This research is not the first research that had been done. There are some related findings to this research. The first is Roswita Aboe. From her result it can be seen that learning style influence learning achievement of the students. There are 75 students in her research, and the result is students' has kinesthetic learning style, so there is significant correlation

[^16]between learning style and learning achievement of the students. Compare with this study, this research found the dominant students learning style is auditory and the population is smaller than Aboe's research. In conclusion, in this research learning style has correlation but not significant with students' learning achievement.

The second is Hadriana, Indra Primahardani and Mahdum which shows that there is a correlation between the students learning style and their learning achievement. This study choosed 300 students as the sampel of their study. Compare with this research, the sampel in this research is smaller than Hadriana et al have. Then, in their research the dominant students' learning style is visual. ${ }^{32}$

The third is Roswati. In her research, the sample that choosen is junior high school which is 51 students, this is close to the sample in this research. Based on her research, the correlation of learning style to toward learning achievement is large category while the correlation betweeen learning style and learning achievement in this research is low category. ${ }^{33}$

The fourth is Abdul Rahman and Anshari S. Ahmar. The sample of this research is focus with the differenciating of men and women's learning style. From their research, it found that there is no correlation

[^17]between learning style and learning achievement. Compare with this study, this study has coorrelation while their study are not. ${ }^{34}$

Due to previous research, the researcher conclude that there is correlation between learning style and learning achievement. Moreover, the researcher wants to do the same research in different location, problem, and situation.

## C. Framework of Thingking

Learning achievement is the essential point in education, especially for students. It is a measurement for teachers to evaluate the teaching learning process. Learning achievement is the result of the students learning process. It can be seen from the score, alphabet and etcetera.

In addition, learning style is how the students learn based on their own way. It is important to know the kinds of learning style of the learners to improve and maximaze the teaching -learning process, students can absorb the information maximally and

Learning style is one way to increase the students achievement. Based on Journal of Indonesia University of Education Bandung, learning style give contributedaround 52 percent in learning achievement. ${ }^{35}$ knowing learning style will help teachers develop the appropriate media for future education.

[^18]From those statements above, it can be assumed that learning style has the significant role in learning achievement.


Figure 1. The Correlation Between Learning Style and Learning Achievement in English

## D. Hypothesis

The hypothesis of this reaserch is:

1. There is correlation between learning style and learning achivemen students in English at the XI grade students of SMA Negeri 1 Padang Bolak. $\left(\mathrm{H}_{\mathrm{a}}\right)$.
2. There is no correlation between learning style and learning achievement students in English at the XI grade students of SMA Negeri 1 Padang Bolak. $\left(\mathrm{H}_{\mathrm{o}}\right)$

## CHAPTER III

## RESEARCH METHODOLOGY

## A. Place and Time of the Research

The location of this research was in SMA Negeri 1 Padang Bolak. This school is located at Jl. Kihajar Dewantara no 50. Lk. VII, Gn. Tua Market, Padang Lawas Utara Regency. Then, the process of this research began from October 2020 until February 2022.
B. Research Method

The kind of this research was quantitative research. The type of this research was correlation research which used to correlate two variables. In the correlation research, the data analyzed by using statistic to get the result of the research. Based on explanation above, it can be inferred that this research used descriptive method to correlate between two variables.

## C. Population and Sampel

## 1. Population

Population is the object of the research. Then, the population of this research was 142 students. The population of this research consisted of four classes of SMA Negeri 1 Padang Bolak which show as follows:

Tabel 1.
The Population of Grade XI Students of SMA Negeri 1 Padang Bolak.

| No | Class | Students |
| :---: | :---: | :---: |
| 1. | XI Mia1 | 36 |
| 2. | XI Mia 2 | 36 |
| 3. | XI Mia 3 | 36 |
| 4. | XI Mia 4 | 34 |
| Total Population |  | $\mathbf{1 4 2}$ |

## 2. Sample

Selecting sample is one of the essential things in the research. Sample is the part of the population. It is the part of quantity and characteristic of the population. To take the sample, the researcher used Slovin's formula which explain as follow:

$$
n=N /(1+(N \times e 2))
$$

Where:
$\mathrm{n}=$ The total of the sample
$\mathrm{N}=$ Total of population
$\mathrm{e}=$ The limit of error tolerance.
So, the researcher used formula above to determine the sample size, with the limit of error tolerance 10 percent as follows:
$\mathrm{N}=142$
$\mathrm{E}=10 \%(0.1)$
$\mathrm{n}=. . .$. ?
$\mathrm{n}=142 /\left(1+\left(142 \times 0.1^{2}\right)\right)$
$\mathrm{n}=142 /(1+142 \times 0.01)$
$\mathrm{n}=142 /(1+1,42)$
$\mathrm{n}=142 / 2.42$
$\mathrm{n}=58.67$ rounded to 59 .
The sample of this research is showed below:

## Tabel 2.

The Sample of Grade Students of Sma Negeri 1 Padang Bolak.

| No | Class | Students |
| :---: | :---: | :---: |
| 1. | XI Mia1 | $10 \%$ |
| 2. | XI Mia 2 | $12 \%$ |
| 3. | XI Mia 3 | $9,85 \%$ |
| 4. | XI Mia 4 | $8,45 \%$ |
| Total Population |  | $\mathbf{4 0 , 3} \%$ |

## D. Definition of Operational Variables

## 1. Learning Style

Learning style is the way students learn based on their own way. the VAK learning style choosed in this research. It consisted of visual, auditory, and kinesthetic. Visual refers to the eyes, auditory related to the hearing and kinesthetic refers to the body movement.

## 2. Learning achievement

Learning achievement is the students result in a periode of time. In this case, the result is the English score of the students. The result of the students determined by their performance in the classroom.

## E. Instrument of the Research

## 1. Questionnaire

Questionnaire is one of the tool to know the behavior, opinion, or motivation of the sample. This research used Likert Scale. Likert Scale
used to know opinion, behavior and perception. In likert scale, the information was started from the positive one into the negative one (Strongly agree, agree, rather agree, disagree, strongly disagree). There were fifteen statements that answered by the students. These questions measured students learning style.

The positive direction is called favorable, while the negative direction is called unfavorable. Both had their own score. They were described in the following below:

Tabel 3.
The Classification of Likert Scale

| No. | Symbol | Explanation | Score |
| :---: | :---: | :---: | :---: |
| 1. | SS | Strongly agree | 5 |
| 2. | S | Agree | 4 |
| 3. | KS | Rather agree | 3 |
| 4. | TS | Disagree | 2 |
| 5. | STS | Strongly disagree | 1. |

Then, there were fifteen statements that answered by the students. Number 1-5 was for auditory, number 6-10 for kinesthetic and the last five statements stand for visual. Here are the indicator of learning style.

Tabel 4. The Indicator of Learning Style.

| Variabel | Indicator | Number of items | Score |
| :---: | :---: | :---: | :---: |
| Learning | Auditory | 1.2 .3 .4 .5. | 5 |
| Style | Kinesthetic | 6.7 .8 .9 .10. | 5 |
|  | Visual | 11.12 .13 .14 .15. | 5 |
|  | Total items |  | 15 |

## 2. Documentation

In this case, document is the students report assessment in English. . Moreover, from the interviewed with english teacher of SMA Negeri 1 Padang Bolak, students score is gained from the daily task, pacticing task, mid term, attitude and students activity in the classroom. $60 \%$ from the task, homework, daily test and attitude. Then, $20 \%$ from Mid term and $20 \%$ from final exam" ${ }^{36}$. After gettinng the score, teachers counted it and devided into three. Then, the result analyzed students score and write in assesment report. From explained above, it can be concluded that teachers use the indicator of kemendikbud which is cognitive, affective and psychomotor to gain the score of the data.

So, the instrument of the research is the document of students' English achievement from their report. Then, other questinnaire used in this research is questionnaire.

## F. Validity and Reliability of the Instrument

## 1. Validity

In quantitative method, the main criteria of the data are valid, reliable, and objective. Validity is the accuracy of what is written and what is reported. Reliability related to the stability and finding of the data. The consistentcy of the data need to convince that this reasearch is reliable. This research used face validity which the questionnaire

[^19]judgment by the expert. Then, to test the validity every item, the researcher used SPPS. It can be seen in appendix 10.

## 2. Reliability

Reliability related to the stability and finding of data. Reability is how far the measurement in a research still consistent after examined repeatedly to the subject in thesame situation To make the data reliable, this research used cronbach alpha with spss formula. Based on the formulating in spss, the research found 0.574 which was bigger than cronbach alva value $0.577>0.6$.

Based on the explanation above, it can be inferred that the questionnaire is valid and reliable. It can be seen in appendix 12.

## 3. Technique of Data Collecting

To gain the data, this research used questionnaire. The researcher came to the chief of the school SMA Negeri 1 Padang Bolak and came to the English teacher fro asking permission. Then, the researcher went to the class. Next, researcher asked students for their attention and participation. The last, researcher shared the questionnaire.

When students finished answer the questionnaire, the researcher collected it. After that, the researcher asked the Assesment-report from the teacher. The assesment report is the students result.The assesmentreport need to know their score in, in this case, researcher only ask for English subject. The questionnaire in this research used likert scale, the
statements consisted of 15 items. The students will choose one option in every item.

## 4. Technique of Data Analysis

Afer collecting the data, the researcher analyzed it by using quantitative method. Most of the data were analysed with statistic analysis. It means that, the data were analysed by using formula with following steps;

1. Grouping the answer of the students.
2. Identified mean, median, and modus by using descriptive statistic to arrange and categorize the data.
3. Look for $\mathrm{r}_{\text {count }}$ by entering statistical number from the helper table withthe formula;

$$
\begin{aligned}
& \operatorname{rxy} \frac{N \sum X Y-\left(\sum X\right)\left(\sum Y\right)}{\left.\sqrt{\left[N \cdot \sum X^{2}\right.}-\left(\sum X^{2}\right)\right]\left[N \cdot \sum Y^{2}-\left(\sum Y\right)^{2}\right]} \\
& \text { rxy }=\text { Correlation Coeffeicient } \\
& \mathrm{n}=\text { The total sample in this research } \\
& \Sigma x y=\text { The total of } \mathrm{x} \text { and } \mathrm{y} \\
& \Sigma x=\text { The total of } \mathrm{x} \\
& \Sigma y=\text { The total of } \mathrm{y} \\
& \Sigma \mathrm{x}^{2}=\text { The total of } \mathrm{x}^{2} \\
& \Sigma \mathrm{y}^{2}=\text { The total of } \mathrm{y}^{237}
\end{aligned}
$$

4. Find the amount of contribution variable X and Y with the formula;

$$
\mathrm{KD}=\mathrm{r}^{2} \times 100 \%
$$

Description ;
$K D=$ coefficient of determination

[^20]$r=$ the correlation value obtained

Then, testing the truth of significant correlation, used the
formula $\mathrm{t}_{\text {count }}$ with the formula;

$$
\mathrm{T}_{\text {count }}=\frac{r_{x y} \sqrt{n-1}}{\sqrt{1-\left(r_{x y}\right)^{2}}}
$$

$t=$ the canculated $t$ test value
$\mathrm{r}=$ correlation coefficient
$\mathrm{r}^{2}=$ coefficient of determination
$\mathrm{n}=$ the total sample ${ }^{38}$
The result should be appropriated with interpretation to the index of product moment of correlation. The interpretation of the result could be seen inthe following table ;

Table 5.
Criteria Score Interpretation of Correlation

| Percentage | Criteria |
| :---: | :---: |
| $0.00-0.199$ | Very low |
| $0.20-0.399$ | Low |
| $0.40-0.599$ | Enough |
| $0.60-0.799$ | High |
| $0.80-1.000$ | Very high |

Source: Sugiyono, Statistika untuk Penelitian.

38 Ahmad Nizar Rangkuti, Statistik Untuk Penelitian Pendidikan (Medan: Perdana Publishing, 2015), p.56.

## CHAPTER 1V

## RESULT OF THE RESEARCH

This chapter discusses about the research findings, and result from the questionnaire that has been shared to the students. In this chapter, the researcher will elaborate the data about the Correlation Between Learning Style and Learning Achievement In English at The Second Grade Students of SMA Negeri 1 Padang Bolak. The data has been calculated by using correlation method and using " $r$ " product moment method in calculation and it is describe the data as follows.

## A. The Description of Data

To understand the result of this research, the data was sequence of variables. Description of the results start from variable (x) which was learning style and variable ( Y ) was learning achievement.

## 1. Students Learning Style

This part showed the result of variable (x) which was independent variables. There were 15 items that presented to be answered by the students. The researcher had known the students learning style by loooking at the score of the questionnaire. The researcher had given the test to the 59 students of XI Mia SMA Negeri 1 Padang Bolak. The answer can be seen below;

Tabel 6.
Total Score of Students Learning Style

| No. | Learning Style | Frequency |
| :---: | :---: | :---: |
| 1. | Auditory | 1239 |
| 2. | Kinesthetic | 1170 |
| 3. | Visual | 1149 |
|  |  | Total |

From the table above, it can be seen that the total score of students' auditory learning style was 1239 . Then, the total score of students' kinesthetic learning style was 1170 , and the total score of students' visual learning style was 1149 . So, it can be inferred that most of student in the XI grade students of SMA Negeri 1 Padang Bolak has Auditory learning style. The distribution of frequency can be seen in the tabel below:

Tabel 7.
Distribution of frequency

| Learning Style | Frequency | Percentage |
| :--- | :--- | :--- |
| Auditory | 30 | $50.87 \%$ |
| Kinesthetic | 8 | $13.55 \%$ |
| Visual | 4 | $6.77 \%$ |
| Auditory and Kinesthetik | 12 | $20.33 \%$ |
| Visual Auditory | 3 | $5.84 \%$ |
| Visual Kinesthetic | 2 | $3.38 \%$ |
| Total | $\mathrm{N}=59$ | $100 \%$ |

From that table, it can be seen that there were 30 students who had auditory learning style, 8 students have kinesthetic learning style, and 4 students have visual learning style. In addition, there were some students who tended to have more than one style ini learning. From the table above,
it is showed that 12 students who had the auditory and kinesthetic learning style, 3 students had the visual and auditory learning style, and 2 students have visual and kinesthetic learning style.

Related to the level of correlation between learning style and learning achievement, this reserach put the data in the distribution frequency that researcher presented below:

Tabel 8.
The Frequency Distribution of Students Learning Style

| No | Interval <br> Class | F | Mid <br> Point | Percentage |
| :--- | :--- | :--- | :--- | :--- |
| 1. | $43-45$ | 1 | 44 | $1.69 \%$ |
| 2. | $46-48$ | 2 | 47 | $3.38 \%$ |
| 3. | $49-51$ | 2 | 50 | $3.38 \%$ |
| 4. | $52-54$ | 3 | 53 | $5.84 \%$ |
| 5. | $55-57$ | 18 | 56 | $30.50 \%$ |
| 6. | $58-60$ | 14 | 59 | $23.72 \%$ |
| 7. | $61-63$ | 12 | 62 | $20.33 \%$ |
| 8. | $64-66$ | 7 | 97 | $11.86 \%$ |
| $i=3$ | 59 |  | $100 \%$ |  |
|  |  |  |  |  |

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


Figure 1: the Histogram of Students Learning Style.

## 2. Learning Achievement

In order to correlate the students learning style and students learning achievement, researcher got the document from the teacher. The summary scores of students English achievement at the eleventh grade students of SMA Negeri 1 Padang bolak can be seen below:

## Tabel 9 <br> The Score of Variable $Y$

| No. | Statistic | Score of Y |
| :---: | :---: | :---: |
| 1. | Highest score | 88 |
| 2. | Lowest score | 74 |
| 3. | Mean | 81.3 |
| 4. | Median | 81.74 |
| 5. | Modus | 79.82 |
| 6. | Range | 2 |
| 7. | Interval | 2 |
| 8. | Standard deviation | 14.4 |

From the tabel above, it can be seen that the highest score of the students are 88 , and the lowest score is 74 . Then, mean is 81.3 which can be categorized into good predicate. Next, the median is 81.74 and mode is 79.82. Then, it also found that range is 2 , interval of the class is 2 and the Standard Deviation is 14.4.

To compute the frequency distribution of the students' achievement, it can be seen into table frequency distribution as follow:

Table 10. Frequency Distribution of English Learning Achievement

| No | Interval | Mid- <br> Point | Frequency | Percentages |
| :---: | :--- | :--- | :---: | :---: |
| 1. | $74-75$ | 74.5 | 3 | $5.84 \%$ |
| 2. | $76-77$ | 76.5 | 5 | $8.47 \%$ |
| 3. | $78-79$ | 78.5 | 13 | $22.03 \%$ |
| 4. | $80-81$ | 80.5 | 15 | $25.42 \%$ |
| 5. | $82-83$ | 82.5 | 5 | $8.47 \%$ |
| 6. | $84-85$ | 84.5 | 8 | $13.55 \%$ |
| 7. | $86-87$ | 86.5 | 5 | $8.47 \%$ |
| 8. | $88-89$ | 88.5 | 5 | $8.47 \%$ |
| $I=2$ |  |  |  |  |
|  |  |  |  | $100 \%$ |

Based on the computed of the frequency distribution of the students' score, the researcher applied into the table frequency distribution as follow:

Tabel 11.
Classification of Students Score

| Score | Frequency | Percentage | Predicate |
| :--- | :--- | :--- | :--- |
| $65-69$ | 0 | - | 0 |
| $75-79$ | 26 | $44.06 \%$ | Enough |
| $80-88$ | 33 | $55.93 \%$ | Good |
| Total | 59 | $100 \%$ | Excellent |

From the tabel above, it can be inferred that 26 students got the score between 75-79 which predicate enough. Then, 33 students or 55.93 \% has a good predicate.

In order to get the data clearly and completely, the data was presented into histogram as follow:


Figure 2: The Histogram of Students Learning Achievement

## B. Analysis of The Data

1. Normality Test

After getting the resume score of variable X and Y , the data was analyzed by using SPSS formula (Kolmogorov Sumirnov) to know the data was normal or not. Normality test was as the requirement of test before going to the testing hypothesis.

Tabel 12.
Normality and Homogenity Data X dan Data Y

| Class | Normality Test |  | Homogeneity Test |  |
| :---: | :---: | :---: | :---: | :---: |
|  | tcount | ttable | fount | ftable |
| Data X | $\mathbf{0 . 3 0 0}$ | $\mathbf{2 . 0 0 2 4 7}$ | $\mathbf{5 . 0 5} \mathbf{4 . 0 1}$ |  |
| Data Y | $\mathbf{0 . 0 0 0}$ | $\mathbf{2 . 0 0 2 4 7}$ |  |  |

After doing the calculation, reseracher found that that $x=$ 0.300 and $0.000<2.00247$, with $\mathrm{n}=57$ and level of $\alpha=5 \%$. It means data $X$ and $Y$ were distributed normal. It can be seen in appendix 4 and appendix 11.

The coefficient of $\mathrm{F}_{\text {count }}=5.05$ with $\alpha 5 \%$ and $\mathrm{dk} 1=\mathrm{k}-1=2$ 1 and $\mathrm{dk} 2=\mathrm{n}-2=59-2=57$, From the distribution list F, researcher found that $\mathrm{F}_{\text {table }} \mathrm{f}_{\text {count }}=$ So, based on the data above, it can be seen both variable X and Y was heterogenous or different. The calculation can be seen in appendix 6 and appendix 12 .

## 2. Hypothesis Testing

Hyphothesis testing aim to determine the correlation between learning style and learning achievement in English at the
second grade students of SMA Negeri i Padang Bolak by using the product moment formula.

Before testing the hypothesis, first the researcher showed the calculation of the score obtained by respondent as follow;
$X=3376$
$\mathrm{Y}=4781$
$X^{2}=194410$
$\mathrm{Y}^{2}=387939$ $X Y=273658$

By using the values above, calculated the value of the correlation between variabel X and Y .

$$
\begin{aligned}
\mathrm{r}_{\mathrm{xy}} & =\frac{N \sum X Y-\left(\sum X\right)\left(\sum Y\right)}{\left.\sqrt{\left[N . \sum X^{2}\right.}-\left(\sum X^{2}\right)\right]\left[N . \sum Y^{2}-\left(\sum Y\right)^{2}\right]} \\
& =\frac{59(273658)-(3376)(4781)}{\left.\left.\sqrt{[59.194410}-(3376)^{2}\right)\right]\left[59.387939-(4781)^{2}\right]} \\
& =\frac{16145822-16140656}{\sqrt{[11470190}-11397376][22888401-22857961]} \\
& =\frac{5166}{\sqrt{[72814}][30440]} \\
& =\frac{5166}{\sqrt{42374}}=0.121
\end{aligned}
$$

$\mathrm{H}_{\mathrm{a}}$ : There is a correlation between students' learning style and students learning achievement in English at the eleventh grade students of SMA Negeri 1 Padang Bolak.

So, based on the calculation of variabel X and Y by $\mathrm{r}_{\mathrm{xy}}$, the researcher got $\mathrm{r}=0.121$. The Calculating product moment by getting correlation coefficient $\mathrm{r}_{\mathrm{xy}}=0.121$. The calculating product moment by
getting correlation coefficients $\mathrm{r}_{\mathrm{xy}}=0.121$ was smaller than $\mathrm{r}_{\text {table }}=$ $0.25640 \mathrm{n} 5 \%$. The result showed that there was a low correlation between variable x and y .

Tabel 13.
Categories Value Correlation Coefficient and Strength Correlation

| No | Value of high r | Interpretation |
| :---: | :---: | :---: |
| 1 | $0.90-1.00$ | Very good |
| 2 | $0.70-0.90$ | Good |
| 3 | $0.40-0.70$ | Enough |
| 4 | $0.20-0.40$ | Low |
| 5 | $0.00-0.20$ | Lowest |

## 3. Significances Variabel Test

Testing of the truth of the significant correlation that used the formula $\mathrm{t}_{\text {count. }}$

$$
\begin{aligned}
\mathrm{T}_{\text {count }} & =\frac{r_{x y} \sqrt{n-1}}{\sqrt{1-\left(r_{x y}\right)^{2}}} \\
& =\frac{0.121 \sqrt{59-1}}{\sqrt{1-(0,121)^{2}}} \\
& =\frac{0.121 \sqrt{7.61}}{\sqrt{1-0.014}} \\
& =\frac{0.121(7.61)}{\sqrt{0.986}} \\
& =\frac{0.92081}{0.992} \\
& =0.928
\end{aligned}
$$

Based on the above calculation, $\mathrm{t}_{\text {count }}>\mathrm{t}_{\text {table. }}$. It has been showed that $\mathrm{t}_{\text {count }}=0.928$ and $\mathrm{t}_{\text {table }}$ on significant $5 \%=2.00247$. It means that there was a correlation between variable X to Y , but in the level of low correlation. So, it is showed that the contribution of variable X to Y was " rejected". In conclusion, there is a low
correlation between students motivation and students English achievement at the eleventh grade students of SMA Negeri 1 Padang Bolak.

## 4. Contribution of Coefficient Correlation Determination Variables Test

To look for the contribution of variable X and Y , it was explained below:

$$
\begin{aligned}
\mathrm{KD} & =\mathrm{r}^{2} \times 100 \% \\
\mathrm{KD} & =0.121^{2} \times 100 \% \\
& =0.014 \\
& =1.4 \%
\end{aligned}
$$

Based on variable X (Students learning style) and variable Y (students learning achievement), the contribution of the result was 0.121. It was belong to the "lowest" category and the contribution of the variable has $1.4 \%$ and $98.6 \%$ influenced by other variables.

## C. The Discussion of Result

After the research did, the researcher discussed the result, and correlate. The research also explained the differeneces with the result and related findings:

The result of this research was there is a correlation between students learning style and students learning achievement at the eleventh grade students of SMA Negeri 1 Padang Bolak. The data
shows the correlation is very low. Maybe, there is a mistake in processing the data and may there is an items are not measurable.

From the calculation of the data, the research found that most of students are Auditory learners. It can be seen from the percentage of each learning style. There are 50.87 \% students who are auditory learners, $13.55 \%$ are kinesthetic learners and 6.77 \% students are visual learners. In addition, there are some students who has more than one learning style. The tabel 10 , shows that 20.33 \% students have auditory and kinesthetic learning style, 5.84 \% students have visual and auditory learning style, and $3.38 \%$ students have visual and kinesthetic learning style.

Furthermore, from students learning achievement ( Y ), it found that the highest students score is 88 , and the lowest students score is 74. It also found that mean of the variable Y is 81.3 which was categorized into good. Then, the modus is 79.82 , range is 2 , interval is 2 and standard deviation is 14.4.

Then, from the calculation of the data it has been showed that $\mathrm{t}_{\text {count }}$ $<\mathrm{t}_{\text {table }}$ or $\mathrm{t}_{\text {count }}=0.928$ and $\mathrm{t}_{\text {table }}$ on significant $5 \%=2.00247$, which means there is correlation but in the level of low between variable X and variable Y .

This research also discussed with the theory and compared with the related finding that has been stated by researcher. Based on related finding from Aboe thesis. From her result, it can be seen that there is
positive correlation between learning style and learning achievement. ${ }^{39}$ Then, the most sudents' learning style is visual, auditory and kinesthetic. The result of this study is different with previous study. Because, the researcher in this study found that the most students' learning style is auditory. However, Aboe's finding is appropriate with the theory which said that there is correlation between learning style and learning achievement.

Then, the second is Hadriana, Primahardani and Mahdum which shows that there is significant impact of students learning style with students learning achievement. The students also have the excellent achievement. Moreover, the most students' leaning style is visual. ${ }^{40}$ Compared with this study, this research is different because the previous study mentioned that there is significant impact while this study got there is low correlation which means not significant. Then, Hadriana's finding is same with the theory which said that there is correlation between students' learning style and students' learning achievement.

The third is is Abdul Rahman and Anshari S. Ahmar. From their research, it can be seen that there is correlation between learning style and learning achievement of the students. Then, the most students'

[^21]learning style is visual ${ }^{41}$. Compared with this research, this study is different, because the students' learning style that found is different. Beside that, the finding of this research is not appropriate with the theory which said that there is correlation between learning style and learning achievement.

After analyzing the data, this research found the similarities with other research. First, the instrument of this research is same with other research which used questionnaire. Then, the researcher also found that the students' learning style defend on what media that teachers used.

However, there was also differences between this research and related findings. The result of this research stated that null hypothesys was rejected and alternative hypothesis was accepted. Then, the placed of the research also different with related findings.

From the statements above, it can be inferred that some researches has significant correlation and some are not. It may influence by the situation or the condition of the students during answer the questionnaire.

## D. Limitation of The Research

The limitation of the research was:

1. The researcher gave the questionnaire directly in the classroom. The researcher did not know wheter the students honest or not in answering the questionnaire.

[^22]2. Some students are not pay attention while i explained the direction to answer it.
3. The researcher took a long time to collect the data because some students need a long time to read and answer it.

## CHAPTER V

## CONCLUSIONS AND SUGGESTIONS

## A. Conclusion

This chapter described a brief result of data about the correlation between students' learning style and students' learning achievement in English at the eleventh grade students' of SMA Negeri 1 Padang Bolak. Based on the result of the research that have been done, it could be concluded that the students' learning style of SMA Negeri 1 Padang Bolak at the eleventh grade is "auditory learning style". The students learning achievement in English is categorized into "good". The hypothesis Ha was rejected from the score of correlation product moment rxy, students' learning style and students' learning achievement at the XI grade students of SMA N 1 Padang Bolak was in the lowest category with rxy 0.121 . The significant correlation level was done by $\mathrm{r}_{\text {table }}$ on significant level $5 \%$ was 0.2126 . So, $\mathrm{r}_{\text {count }}$ is lower than $\mathrm{r}_{\text {table }}, \mathrm{r}_{\text {count }}<$ $\mathrm{r}_{\text {table }}(0.121<0.2126)$.

## B. Suggestion

Here researcher give information as follow:

1. The headmaster of SMA Negeri 1 Padang Bolak was hoped to support all english teachers to teach well and provide facilities involvee with learning English.
2. The headmaster of SMA Negeri 1 Padang Bolak was hoped to support all English teachers to teach well and provide facilities involvee with learning English.
3. The researcher hopes that the other researcher who want to conduct a research related to this research

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## Appendix 1

## KUOSIONER PENELITIAN

## KUESIONER PENELITIAN KORELASI ANTARA GAYA BELAJAR DENGAN HASIL BELAJAR SISWA DALAM BAHASA INGGRIS KELAS XI SMA NEGERI 1 PADANG BOLAK.

Saya Paujia Siregar ( Nim: 1720300057), mahasiswi program studi Tadris Bahasa Inggris sedang melakukan penelitian ( tugas akhir/skripsi) dengan judul The Correlation Between Learning Style and Learning Achievement in English at The XI Grade Students of SMA Negeri 1 Padang Bolak. Oleh karena itu diperlukan dukungan dan partisipasi dari adek-adek sekalian untuk meluangkan waktu mengisi kuesioner ini dengan sejujur-jujurnya. Semua informasi yang diberikan tidak ada pengaruhnya dengan nilai kalian. Terima kasih atas dukungan dan partisipasi adek-adek sekalian.

## Petunjuk Pengisian

1. Angket ini bersifat ilmiah, tidak ada tujuan lain.
2. Jawablah pernyataan ini dengan jujur.
3. Berikut adalah keterangan dari setiap angka.

## Pernyataan:

5 = Sangat Setuju
4 = Setuju
3 = Ragu-Ragu
2 $=$ Tidak Setuju
1= Sangat tidak Setuju

| No | Items | Keterangan |
| :--- | :--- | :---: |
| 1. | Ketika saya remedi saat ujian, saya <br> akan berdiskusi dan meminta bantuan <br> teman berupa penjelasan materi yang <br> tidak saya mengerti. |  |


| 2. | Jika saya mengajari seseorang <br> tentang suatu hal baru, saya <br> cenderung untuk memberikan <br> penjelasan kepada mereka. |  |
| :--- | :--- | :--- |
| 3. | Pada waktu senggang, saya paling <br> sering mendengarkan music. |  |
| 4. | Ketika saya pergi membeli buku, <br> saya akan langsung bertanya kepada <br> pegawai toko apabila memiliki <br> kendala. |  |
| 5. | Saya suka berbincang-bincang <br> dengan teman. |  |
| 6. | Saya suka berolahraga dan <br> melakukan aktifitas fisik pada waktu <br> luang . |  |
| 7. | Ketika saya membeli pakaian, saya <br> akan mencoba dan melihat <br> kecocokannya. |  |
| 8. | Ketika saya mempelajari hal baru, <br> saya paling suka melakukan <br> percobaan dan menemukan solusinya <br> jika ada kesulitan. |  |
| 9. | Ketiika saya bertemu orang, hal <br> pertama yang saya lakukan adalah <br> menjabat tangannya. |  |
| 10. | Setelah mempelajari sesuatu, saya <br> akan mempraktekkannya. |  |
| 11. | Sebelum menggunakan suatu alat, <br> saya akan membaca petunjuknya <br> terlebih dahulu. |  |
| 12. | Saat guru mengajar, saya akan <br> memperhatikan apa yang ia tuliskan. |  |
| 13. | Sebagian besar waktu luang saya <br> habiskan menonton televisi. |  |
| 14. | Saya lebih mudah mengingat orang <br> dengan wajahnya. |  |
| 15. | Saat berkonsentrasi, saya akan fokus <br> dengan tulisan yang ada didepan <br> saya. |  |
|  |  |  |

Validator
Liah Rosdiani Nasution, M.A.
NIP. 198907302019032010

## APPENDIX 2



Nona Sekiah
Namat
Narna
Nomor IntunNISN

Kolas
Semester
Tahun Pelajaran
XIMIA 1
1 (Sabu)
20202021
B. PENGETARUAN

Kriteria Ketuntasan Minimal $=73$

| No Mata Pelajaran |  |  |  |
| :---: | :---: | :---: | :---: |
|  | Nilai | Predikat | Pengetahuan |

Kelompak A

|  | Buchlowin a ama lsam din Budi Pnond | 63 | B |  40-41 dan QS. aHheifatu( 32 |
| :---: | :---: | :---: | :---: | :---: |
| 2 | A nodikim Pancanilin dant Kewnywogarain | 85 | B |  fuhum dan persolas |
| 3 | Sahanu intocesta | 84 | B | Merrilik pecquasaian pengetatualt yanģ baik, ientana daiam Mengidentilhaw Dile parring diur satuibulu pangspaan |
| 4 | Bunanaingrin | 84. | B |  |
| 5 | 1.lamimita (Uemum) | 86 | B |  Nesaman maths: |
|  | mithemantil | 87 | B |  Pomuda dan naikumpatheg helvagun |

Kelompok B

|  | Pendikan lasmank. Olthroga, din Kusetatai | 90 | B |  satu permainem bolu haci |
| :---: | :---: | :---: | :---: | :---: |
| 8 | Prikarya dan Kasinuusahaan | 15 | 0 |  unter mabian kus abi |
|  | Sinnifuraut | n |  |  |



## Appendix 3

The Score of Respondent of $\mathbf{X}$

## APPENDIX 4

The Score of Respondent of $\mathbf{Y}$

| No | Initial | English | Symbols | Predicate |
| :--- | :--- | :--- | :--- | :--- |


|  |  | Score |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 1. | SW | 78 | C | Enough |
| 2. | NS | 78 | C | Enough |
| 3. | DP | 81 | B | Good |
| 4. | SA | 82 | B | Good |
| 5. | LI | 85 | B | Good |
| 6. | NDR | 84 | B | Good |
| 7. | JS | 78 | C | Enough |
| 8. | SA | 88 | B | Good |
| 9. | NA | 86 | B | Good |
| 10. | SA | 88 | B | Good |
| 11. | CA | 76 | C | Enough |
| 12. | ND | 80 | B | Good |
| 13. | PDK | 78 | C | Enough |
| 14. | NAS | 83 | B | Good |
| 15. | RTH | 88 | B | Good |
| 16. | LS | 80 | B | Good |
| 17. | RAS | 84 | B | Good |
| 18. | IBV | 78 | C | Enough |
| 19. | AA | 86 | B | Good |
| 20. | LD | 78 | C | Enough |
| 21. | RSP | 75 | C | Enough |
| 22. | NM | 78 | C | Enough |
| 23. | RJ | 85 | B | Good |
| 24. | AJ | 86 | B | Good |
| 25. | EPS | 85 | B | Good |
| 26. | SP | 78 | C | Enough |
| 27. | YS | 78 | C | Enough |
| 28. | SH | 80 | C | Enough |
| 29. | RRP | 80 | C | Enough |
| 30. | IP | 80 | C | Enough |
| 31. | NF | 80 | C | Enough |
| 32. | TS | 80 | C | Enough |
| 33. | M | 85 | B | Good |
| 34. | MAD | 82 | B | Good |
| 35. | LS | 78 | C | Enough |
| 36. | PH | 88 | B | Good |
| 37. | SH | 78 | C | Enough |
| 38. | R | 86 | B | Good |


| 39. | JSS | 79 | C | Enough |
| :---: | :---: | :---: | :---: | :---: |
| 40. | SW | 88 | B | Good |
| 41. | ED | 86 | B | Good |
| 42. | F | 80 | C | Enough |
| 43. | RW | 79 | C | Enough |
| 44. | ISH | 80 | C | Enough |
| 45. | OMS | 80 | C | Enough |
| 46. | SPT | 80 | C | Enough |
| 47. | HO | 80 | C | Enough |
| 48. | A | 76 | C | Enough |
| 49. | RF | 85 | B | Good |
| 50. | TA | 75 | C | Enough |
| 51. | DAP | 76 | C | Enough |
| 52. | FKH | 80 | C | Enough |
| 53. | DYS | 74 | C | Enough |
| 54. | AHH | 78 | C | Enough |
| 55. | RHR | 76 | C | Enough |
| 56. | KS | 85 | B | Good |
| 57. | SWN | 76 | C | Enough |
| 58. | SWR | 83 | B | Good |
| 59. | AA | 82 | B | Good |
|  |  |  |  |  |

## Appendix 5

DATA ANALYSIS OF X
VARIABLE X ( STUDENTS LEARNING STYLE)

1. Minimum and maximal core were gotten by setting the variable score from lowest to the highest.

| 50 | 59 | 62 | 58 | 59 | 55 | 53 | 63 | 55 | 62 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 56 | 53 | 56 | 57 | 65 | 62 | 58 | 65 | 56 | 58 |
| 57 | 55 | 54 | 55 | 58 | 64 | 60 | 64 | 57 | 64 |
| 62 | 61 | 64 | 56 | 62 | 58 | 58 | 55 | 57 | 55 |
| 56 | 56 | 61 | 62 | 46 | 58 | 62 | 61 | 58 | 58 |
| 49 | 65 | 57 | 62 | 46 | 57 | 59 | 58 | 43 |  |

a. Highest score $=64$
b. Lowest score $=43$
c. Range.

$$
\begin{aligned}
R & =64-43 \\
& =21
\end{aligned}
$$

d. The total of class $=1+3.3 \log n$.

$$
\begin{aligned}
& =1+3.3 \log (59) \\
& =1+3.3 \cdot 1,7708 \\
& =1+5.8438 \\
& =6.8438 \\
& =7
\end{aligned}
$$

e. Length of Classes (i)

$$
\begin{aligned}
& I=\frac{\text { range }}{\text { total of class }}=\frac{21}{7}=3 \\
& I=3
\end{aligned}
$$

f. Mean Score

| No | Interval <br> Class | F | X | FX | Fkb | Fka |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1. | $43-45$ | 1 | 44 | 44 | $59=\mathrm{N}$ | 1 |
| 2. | $46-48$ | 2 | 47 | 94 | 58 | 3 |
| 3. | $49-51$ | 2 | 50 | 100 | 56 | 5 |
| 4. | $52-54$ | 3 | 53 | 159 | 54 | 8 |
| 5. | $55-57$ | 18 | 56 | 1008 | 51 | 26 |
| 6. | $58-60$ | 14 | 59 | 826 | 33 | 40 |
| 7. | $61-63$ | 12 | 62 | 744 | 19 | 52 |


| 8. | $64-66$ | 7 | 97 | 679 | 7 | $\mathrm{~N}=59$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $i=3$ | 59 |  |  |  |  |  |
|  |  |  | 3654 |  |  |  |

$$
\begin{aligned}
& \text { Mean }(\mathrm{x}) \\
& \qquad \begin{aligned}
\mathrm{X} & =\frac{F X}{N} \\
& =\frac{3654}{59} \\
& =61.93
\end{aligned}
\end{aligned}
$$

## g. Median

| No | Interval <br> Class | F | X | FX | Fkb | Fka |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1. | $43-45$ | 1 | 44 | 44 | $59=\mathrm{N}$ | 1 |
| 2. | $46-48$ | 2 | 47 | 94 | 58 | 3 |
| 3. | $49-51$ | 2 | 50 | 100 | 56 | 5 |
| 4. | $52-54$ | 3 | 53 | 159 | 54 | 8 |
| 5. | $55-57$ | 18 | 56 | 1008 | 51 | 26 |
| 6. | $58-60$ | 14 | 59 | 826 | 33 | 40 |
| 7. | $61-63$ | 12 | 62 | 744 | 19 | 52 |
| 8. | $64-66$ | 7 | 97 | 679 | 7 | $\mathrm{~N}=59$ |
| $i=3$ | 59 |  |  |  |  |  |

Position of Me in the internal of classes is number 5, that:

| Bb | $=54.5$ |
| :--- | :--- |
| F | $=8$ |
| $f$ | $=18$ |
| i | $=3$ |
| n | $=59$ |
| $1 / 2 \mathrm{n}$ | $=29,5$ |
| So, |  |

$$
\begin{aligned}
& \mathrm{Me}=\mathrm{Bb}+\mathrm{i}\left(\frac{\frac{n}{2}-F}{f}\right) \\
&=54.5+4\left(\frac{29,5-8}{18}\right) \\
&=54.5+4(1,19) \\
&=54.5+4,76 \\
&=59.26
\end{aligned}
$$

h. Modus

| No | Interval <br> Class | F | X | FX | Fkb | Fka |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1. | $43-45$ | 1 | 44 | 44 | $59=\mathrm{N}$ | 1 |
| 2. | $46-48$ | 2 | 47 | 94 | 58 | 3 |
| 3. | $49-51$ | 2 | 50 | 100 | 56 | 5 |
| 4. | $52-54$ | 3 | 53 | 159 | 54 | 8 |
| 5. | $55-57$ | 18 | 56 | 1008 | 51 | 26 |
| 6. | $58-60$ | 14 | 59 | 826 | 33 | 40 |
| 7. | $61-63$ | 12 | 62 | 744 | 19 | 52 |
| 8. | $64-66$ | 7 | 97 | 679 | 7 | $\mathrm{~N}=59$ |
| $i=3$ | 59 |  |  |  |  |  |

$$
\begin{aligned}
& \mathrm{Mo}=\mathrm{L}+\frac{d_{1}}{d_{1}+d_{2}} \mathrm{i} \\
& \mathrm{~L}=54,5 \\
& \mathrm{~d} 1=15 \\
& \mathrm{~d} 2=4 \\
& \mathrm{i}=3 \\
& \text { So, }
\end{aligned}
$$

$$
\begin{aligned}
\mathrm{Mo} & =54,5+\left(\frac{15}{15+4}\right) 3 \\
& =54,5+(0,78) 3 \\
& =54,5+2,34
\end{aligned}
$$

$$
=56,8
$$

Distribution of Frequency

| Learning <br> Style | Frequency | Percentage |
| :--- | :--- | :--- |
| Auditory | 30 | $50.87 \%$ |
| Kinesthetic | 8 | $13.55 \%$ |
| Visual | 4 | $6.77 \%$ |
| Auditory and <br> Kinesthetic | 12 | $20.33 \%$ |
| Visual <br> auditory | 3 | $5.84 \%$ |
| Visual <br> Kinesthetic | 2 | $3.38 \%$ |
| Total | $\mathrm{N}=59$ | $100 \%$ |

## APPENDIX 6

## NORMALITY TEST OF VARIABLE $X$

| No | Interval <br> Class | F | X | x | Fx | $\mathrm{x}^{2}$ | $\mathrm{fx}^{2}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1. | $43-45$ | 1 | 44 | +4 | 4 | 16 | 16 |
| 2. | $46-48$ | 2 | 47 | +3 | 6 | 9 | 18 |
| 3. | $49-51$ | 2 | 50 | +2 | 4 | 4 | 8 |
| 4. | $52-54$ | 3 | 53 | +1 | 3 | 1 | 3 |
| 5. | $55-57$ | 18 | 56 | 0 | 0 | 0 | 0 |
| 6. | $58-60$ | 14 | 59 | -1 | -14 | 1 | 14 |
| 7. | $61-63$ | 12 | 62 | -2 | -24 | 4 | 48 |
| 8. | $64-66$ | 7 | 97 | -3 | -21 | 9 | 63 |
| $i=4$ | 59 |  |  | -42 |  | 170 |  |
|  |  |  |  |  |  |  |  |

$\mathrm{SD}_{\mathrm{t}}=i \sqrt{\frac{\sum f x^{2}}{n}-\left(\frac{\sum f x}{n}\right)^{2}}$

$$
\begin{aligned}
& =4 \sqrt{\frac{170}{59}-\left(\frac{-13-(-42}{59}\right)^{2}} \\
& =4 \sqrt{2,88-(29)^{2}} \\
& =4 \sqrt{1,6-14,25} \\
& =4 \sqrt{-12,65} \\
& =4 x-12,65 \\
& =-50,6
\end{aligned}
$$

One-Sample Kolmogorov-Smirnov Test

|  |  | x |
| :--- | :--- | ---: |
| N |  | 59 |
| Normal Parameters ${ }^{\text {a,b }}$ | Mean | 57,22 |
|  | Std. Deviation | 4,613 |
| Most Extreme Differences | Absolute | , 146 |
|  | Positive | , 111 |
|  | Negative | ,- 146 |
| Test Statistic |  | , 146 |
| Asymp. Sig. (2-tailed) |  | , $003^{\mathrm{c}}$ |

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

## APPENDIX 7

## HOMOGENITY TEST OF VARIABLE X

Calculation of parameter to get variant of the variable $x$, used homogeneity test by using formula:

$$
\mathrm{S}^{2}=\frac{N \sum x \mathrm{i}^{2}-\left(\sum \mathrm{xi}\right)^{2}}{n(n-1)}
$$

Hypotheses:

$$
\begin{array}{cc}
\mathrm{H}_{0} & : \delta_{1}^{2}=\delta_{2}^{2} \\
& { }_{2}^{2} \\
\mathrm{H}_{1} & : \delta^{2} \neq \delta^{2} \\
& { }_{1}
\end{array}
$$

## A. Variant of Data $X$

| No. | $\mathbf{x i}$ | $\mathbf{X i}^{\mathbf{2}}$ |
| :---: | :---: | :---: |
| 1. | 50 | 2500 |
| 2. | 59 | 3481 |
| 3. | 62 | 3844 |
| 4. | 58 | 3364 |
| 5. | 59 | 3481 |
| 6. | 55 | 3025 |
| 7. | 53 | 2809 |
| 8. | 63 | 3969 |
| 9. | 55 | 3025 |
| 10. | 62 | 3844 |
| 11. | 55 | 3025 |
| 12. | 53 | 2809 |
| 13. | 56 | 3136 |
| 14. | 57 | 3249 |


| 15. | 65 | 4225 |
| :---: | :---: | :---: |
| 16. | 62 | 3844 |
| 17. | 58 | 3364 |
| 18. | 65 | 4225 |
| 19. | 56 | 3136 |
| 20. | 58 | 3364 |
| 21. | 57 | 3249 |
| 22. | 55 | 3025 |
| 23. | 54 | 2916 |
| 24. | 55 | 3025 |
| 25. | 58 | 3364 |
| 26. | 64 | 4096 |
| 27. | 60 | 3600 |
| 28. | 64 | 4096 |
| 29. | 57 | 3249 |
| 30. | 64 | 4096 |
| 31. | 54 | 2916 |
| 32. | 55 | 3025 |
| 33. | 58 | 3364 |
| 34. | 56 | 3136 |
| 35. | 62 | 3844 |
| 36. | 58 | 3364 |
| 37. | 58 | 3364 |
| 38. | 55 | 3025 |
| 39. | 57 | 3249 |
| 40. | 55 | 3025 |
| 41. | 56 | 3136 |
| 42. | 56 | 3136 |
| 43. | 61 | 3721 |
| 44. | 62 | 3844 |
| 45. | 46 | 2116 |
| 46. | 58 | 3364 |
| 47. | 62 | 3844 |
| 48. | 61 | 3721 |
| 49. | 58 | 3364 |
| 50. | 58 | 3364 |
| 51. | 49 | 2401 |
| 52. | 50 | 2500 |
| 53. | 57 | 3249 |
| 54. | 62 | 3844 |
| 55. | 46 | 2116 |
| 56. | 57 | 3249 |
| 57. | 59 | 3481 |
| 58. | 58 | 3364 |


| 59. | 43 | 1849 |
| :---: | :---: | :---: |
| Total | $\sum x \mathrm{i}^{=} 3376$ | $\sum x \mathrm{i}^{2}=194490$ |

$$
\begin{array}{ll}
\mathrm{n} & =59 \\
\sum \mathrm{xi} & =3376 \\
\sum \mathrm{x}^{2} & =194490
\end{array}
$$

So,

$$
\begin{aligned}
S^{2} \quad & =\frac{N \sum x \mathrm{i}^{2}-\left(\sum \mathrm{xi}\right)^{2}}{n(n-1)} \\
& =\frac{59(194490)-(3376)^{2}}{59(59-1)} \\
& =\frac{11474910-11397376}{3422} \\
& =\frac{77534}{3422} \\
& =22670 \\
& =150,56
\end{aligned}
$$

## APPENDIX 8

The Classification Of Students Learning Style Based on Their Preference Learning Style.

| No. | Initial | Auditory | Kinesthetic | Visual | Learning Style |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1. | SW | 19 | 16 | 15 | Auditory |
| 2. | NS | 20 | 20 | 19 | Auditory and <br> Kinesthetic |
| 3. | DP | 21 | 18 | 23 | Auditory |
| 4. | SA | 20 | 20 | 18 | Auditory and <br> Kinesthetic |
| 5. | LI | 25 | 19 | 15 | Auditory |
| 6. | NDR | 21 | 20 | 14 | Auditory |
| 7. | JS | 19 | 16 | 18 | Auditory |
| 8. | SA | 19 | 18 | 18 | Audit0ry |
| 9. | NA | 17 | 17 | 19 | Auditory and <br> Kinesthetic |
| 10. | SA | 22 | 22 | 21 | Auditory |
| 11. | CA | 24 | 21 | 15 | Auditory |
| 12. | ND | 24 | 15 | 14 | Auditory |
| 13. | PDK | 23 | 20 | 23 | Auditory |
| 14. | NAS | 21 | 20 | 16 | Auditory |
| 15. | RTH | 22 | 22 | 21 | Auditory and <br> Kinesthetic |
| 16. | LS | 23 | 20 | 19 | Auditory |
| 17. | RAS | 21 | 19 | 18 | Auditory |
| 18. | IBV | 21 | 23 | 21 | Auditory |
| 19. | AA | 22 | 16 | 22 | Auditory |
| 20. | LD | 22 | 22 | 24 | Auditory and <br> Kinesthetic |
| 21. | RSP | 23 | 16 | 19 | Auditory |
| 22. | NM | 18 | 24 | 11 | Auditory |
| 23. | RJ | 23 | 23 | 19 | Auditory and <br> Kinesthetic |
| 24. | AJ | 19 | 24 | 21 | Kinesthetic |


| 25. | EPS | 23 | 22 | 18 | Auditory |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 26. | SP | 21 | 20 | 23 | Visual |
| 27. | YS | 18 | 23 | 19 | Kinesthetic |
| 28. | SH | 18 | 23 | 23 | Visual And Kinesthetic |
| 29. | RRP | 19 | 18 | 19 | Auditory and Visual |
| 30. | IP | 23 | 23 | 18 | Auditory and Kinesthetic |
| 31. | NF | 23 | 16 | 23 | Auditory and Visual |
| 32. | TS | 22 | 22 | 17 | Auditory and Kinesthetic |
| 33. | M | 19 | 22 | 23 | Visual |
| 34. | MAD | 21 | 21 | 18 | Auditory and Kinesthetic |
| 35. | LS | 19 | 22 | 21 | Kinesthetic |
| 36. | PH | 19 | 20 | 20 | Kinesthetic and visual |
| 37. | SH | 22 | 21 | 20 | Auditory |
| 38. | R | 24 | 19 | 16 | Auditory |
| 39. | JSS | 19 | 20 | 25 | Visual |
| 40. | SW | 22 | 20 | 19 | Auditory |
| 41. | ED | 23 | 23 | 22 | Auditory and Kinesthetic |
| 42. | F | 22 | 21 | 13 | Auditory |
| 43. | RW | 16 | 24 | 21 | Kinesthetic |
| 44. | ISH | 18 | 20 | 24 | Visual |
| 45. | OMS | 22 | 19 | 22 | Auditory |
| 46. | SPT | 23 | 22 | 23 | Auditory |
| 47. | HO | 23 | 18 | 21 | Auditory |
| 48. | A | 21 | 20 | 19 | Auditory |
| 49. | RF | 20 | 19 | 20 | auditory and visual |
| 50. | TA | 19 | 19 | 21 | auditory and kinesthetic |
| 51. | DAP | 18 | 14 | 17 | Auditory |
| 52. | FKH | 23 | 21 | 21 | kinesthetic and auditory |
| 53. | DYS | 22 | 23 | 22 | Kineshetic |
| 54. | AHH | 24 | 18 | 20 | Auditory |
| 55. | RHR | 24 | 16 | 23 | Auditory |
| 56. | KS | 23 | 17 | 23 | Auditory and Kinesthetic |
| 57. | SWN | 18 | 22 | 20 | Kinesthetic |
| 58. | SWR | 23 | 20 | 16 | Auditory |


| 59. | AA | 16 | 11 | 16 | Auditory and <br> Kinesthetic |
| :---: | :---: | :---: | :---: | :---: | :---: |

The Score of Learning Style of Students Auditory

| Number of Questnnaire | 1 | 2 | 3 | 4 | 5 | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S | 5 | 4 | 5 | 3 | 2 | 19 |
| C | 5 | 4 | 3 | 4 | 4 | 20 |
|  | 5 | 4 | 4 | 4 | 4 | 21 |
| O | 4 | 3 | 3 | 5 | 5 | 20 |
|  | 5 | 5 | 6 | 4 | 5 | 25 |
| R | 5 | 5 | 4 | 4 | 3 | 21 |
| E | 4 | 4 | 4 | 3 | 4 | 19 |
|  | 4 | 3 | 4 | 3 | 5 | 19 |
| O | 3 | 4 | 3 | 3 | 4 | 17 |
|  | 5 | 5 | 5 | 4 | 3 | 22 |
| F | 5 | 4 | 5 | 5 | 5 | 24 |
| T | 4 | 5 | 5 | 5 | 5 | 24 |
|  | 5 | 5 | 4 | 5 | 4 | 23 |
| H | 4 | 5 | 4 | 3 | 5 | 21 |
|  | 4 | 4 | 4 | 5 | 5 | 22 |
| E | 5 | 4 | 4 | 5 | 5 | 23 |
|  | 4 | 4 | 4 | 5 | 4 | 21 |
| S | 5 | 5 | 4 | 3 | 4 | 21 |
| T | 4 | 4 | 4 | 5 | 5 | 22 |
|  | 4 | 4 | 4 | 5 | 5 | 22 |
| U | 5 | 5 | 5 | 4 | 4 | 23 |
|  | 5 | 4 | 3 | 3 | 3 | 18 |
| D | 5 | 5 | 5 | 4 | 4 | 23 |
| E | 4 | 4 | 3 | 4 | 4 | 19 |
|  | 5 | 5 | 5 | 4 | 4 | 23 |
| N | 4 | 4 | 4 | 4 | 5 | 21 |
|  | 5 | 3 | 3 | 3 | 4 | 18 |
| T | 4 | 3 | 4 | 3 | 4 | 18 |
|  | 5 | 4 | 4 | 3 | 3 | 19 |
|  | 4 | 4 | 5 | 5 | 5 | 23 |


| S | 4 | 4 | 5 | 5 | 5 | 23 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 4 | 4 | 4 | 5 | 5 | 22 |
|  | 3 | 3 | 3 | 5 | 5 | 19 |
|  | 4 | 5 | 5 | 4 | 3 | 21 |
|  | 5 | 4 | 2 | 5 | 3 | 19 |
|  | 4 | 3 | 4 | 4 | 4 | 19 |
|  | 4 | 5 | 4 | 5 | 4 | 22 |
|  | 5 | 5 | 5 | 5 | 4 | 24 |
|  | 4 | 3 | 4 | 4 | 4 | 19 |
|  | 5 | 4 | 5 | 4 | 4 | 22 |
|  | 5 | 4 | 5 | 4 | 5 | 23 |
|  | 4 | 4 | 4 | 5 | 5 | 22 |
|  | 2 | 2 | 3 | 4 | 5 | 16 |
|  | 4 | 3 | 4 | 3 | 4 | 18 |
|  | 5 | 5 | 5 | 4 | 3 | 22 |
|  | 5 | 5 | 5 | 4 | 4 | 23 |
|  | 5 | 4 | 4 | 5 | 5 | 23 |
|  | 5 | 4 | 4 | 4 | 4 | 21 |
|  | 4 | 4 | 4 | 4 | 4 | 20 |
|  | 4 | 4 | 4 | 3 | 4 | 19 |
|  | 5 | 3 | 2 | 4 | 4 | 18 |
|  | 5 | 5 | 5 | 4 | 4 | 23 |
|  | 4 | 5 | 4 | 5 | 4 | 22 |
|  | 4 | 5 | 5 | 5 | 5 | 24 |
|  | 5 | 5 | 5 | 5 | 4 | 24 |
|  | 5 | 5 | 5 | 4 | 4 | 23 |
|  | 3 | 4 | 3 | 4 | 4 | 18 |
|  | 4 | 5 | 5 | 4 | 5 | 23 |
|  | 5 | 2 | 3 | 3 | 3 | 16 |
|  |  |  |  |  |  |  |
|  | Total |  |  |  |  | 1239 |

Students Kinesthetic Score
Table 6.

| Number of Questinnaire | 6 | 7 | 8 | 9 | 10 | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S | 3 | 4 | 5 | 3 | 1 | 16 |
|  | 5 | 5 | 2 | 3 | 5 | 20 |
| C | 5 | 2 | 5 | 4 | 2 | 18 |
|  | 4 | 4 | 5 | 4 | 3 | 20 |
| O | 4 | 4 | 4 | 3 | 4 | 19 |
|  | 3 | 3 | 4 | 5 | 5 | 20 |
|  | 3 | 3 | 3 | 3 | 4 | 16 |
| R | 3 | 3 | 4 | 4 | 4 | 18 |
|  | 4 | 4 | 3 | 3 | 3 | 17 |
|  | 4 | 4 | 4 | 5 | 5 | 22 |
| E | 4 | 4 | 4 | 4 | 5 | 21 |
|  | 4 | 3 | 3 | 2 | 3 | 15 |
| O | 5 | 4 | 3 | 3 | 5 | 20 |
|  | 5 | 5 | 3 | 3 | 4 | 20 |
| F | 5 | 4 | 3 | 5 | 5 | 22 |
|  | 5 | 4 | 4 | 4 | 3 | 20 |
|  | 3 | 5 | 4 | 3 | 4 | 19 |
| T | 4 | 5 | 5 | 5 | 4 | 23 |
|  | 3 | 2 | 1 | 5 | 5 | 16 |
|  | 5 | 4 | 4 | 4 | 5 | 22 |
| H | 3 | 3 | 3 | 3 | 4 | 16 |
|  | 5 | 5 | 5 | 5 | 4 | 24 |
| E | 4 | 4 | 5 | 5 | 5 | 23 |
|  | 5 | 5 | 5 | 5 | 4 | 24 |
|  | 4 | 4 | 5 | 4 | 5 | 22 |
| S | 5 | 5 | 3 | 3 | 4 | 20 |
|  | 4 | 4 | 5 | 5 | 5 | 23 |
|  | 4 | 5 | 5 | 5 | 4 | 23 |
|  | 4 | 3 | 4 | 3 | 4 | 18 |
|  | 4 | 5 | 5 | 4 | 5 | 23 |


| T | 3 | 3 | 3 | 3 | 4 | 16 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5 | 5 | 3 | 4 | 5 | 22 |
| U | 4 | 4 | 5 | 4 | 5 | 22 |
|  | 4 | 3 | 5 | 4 | 5 | 21 |
|  | 5 | 5 | 5 | 3 | 4 | 22 |
| D | 4 | 4 | 4 | 4 | 4 | 20 |
|  | 4 | 4 | 3 | 5 | 5 | 21 |
|  | 4 | 4 | 4 | 3 | 4 | 19 |
| E | 4 | 3 | 5 | 4 | 4 | 20 |
|  | 4 | 4 | 4 | 4 | 4 | 20 |
| N | 4 | 5 | 4 | 5 | 5 | 23 |
|  | 5 | 5 | 4 | 3 | 4 | 21 |
|  | 5 | 5 | 5 | 4 | 5 | 24 |
| T | 3 | 4 | 4 | 4 | 5 | 20 |
|  | 4 | 4 | 3 | 4 | 4 | 19 |
| S | 4 | 5 | 4 | 5 | 4 | 22 |
|  | 4 | 4 | 4 | 3 | 3 | 18 |
|  | 4 | 4 | 4 | 4 | 4 | 20 |
|  | 3 | 4 | 4 | 4 | 4 | 19 |
|  | 3 | 3 | 4 | 4 | 5 | 19 |
|  | 2 | 5 | 2 | 2 | 3 | 14 |
|  | 5 | 4 | 3 | 4 | 5 | 21 |
|  | 5 | 4 | 5 | 4 | 5 | 23 |
|  | 4 | 3 | 4 | 3 | 4 | 18 |
|  | 4 | 4 | 4 | 2 | 2 | 16 |
|  | 4 | 3 | 3 | 3 | 4 | 17 |
|  | 5 | 5 | 4 | 4 | 4 | 22 |
|  | 3 | 5 | 4 | 4 | 4 | 20 |
|  | 2 | 3 | 2 | 1 | 3 | 11 |
|  | Total |  |  |  |  | 1170 |

Students Visual Score


|  | 4 | 4 | 3 | 3 | 3 | 17 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 4 | 5 | 5 | 5 | 4 | 23 |
|  | 5 | 4 | 3 | 3 | 3 | 18 |
|  | 5 | 5 | 1 | 5 | 5 | 21 |
|  | 4 | 4 | 4 | 4 | 4 | 20 |
|  | 5 | 4 | 3 | 4 | 4 | 20 |
|  | 3 | 4 | 3 | 3 | 3 | 16 |
|  | 5 | 5 | 5 | 5 | 5 | 25 |
|  | 4 | 4 | 4 | 3 | 4 | 19 |
|  | 5 | 5 | 4 | 4 | 4 | 22 |
|  | 3 | 3 | 3 | 2 | 2 | 13 |
|  | 5 | 5 | 4 | 4 | 3 | 21 |
|  | 5 | 4 | 5 | 5 | 5 | 24 |
|  | 4 | 5 | 5 | 4 | 4 | 22 |
|  | 5 | 4 | 5 | 5 | 4 | 23 |
|  | 4 | 5 | 4 | 4 | 4 | 21 |
|  | 4 | 4 | 4 | 4 | 3 | 19 |
|  | 4 | 4 | 4 | 4 | 4 | 20 |
|  | 5 | 5 | 4 | 4 | 3 | 21 |
|  | 4 | 4 | 2 | 5 | 2 | 17 |
|  | 5 | 5 | 4 | 4 | 3 | 21 |
|  | 4 | 5 | 5 | 4 | 4 | 22 |
|  | 4 | 4 | 4 | 4 | 4 | 20 |
|  | 5 | 5 | 4 | 4 | 5 | 23 |
|  | 4 | 4 | 5 | 5 | 5 | 23 |
|  | 4 | 4 | 3 | 5 | 4 | 20 |
|  | 3 | 4 | 1 | 5 | 3 | 16 |
|  | 3 | 4 | 2 | 2 | 5 | 16 |
|  |  |  | Tot |  |  | 1149 |

## APPENDIX 9

## DATA ANALYSIS OF Y

VARIABLE Y (LEARNING ACHIEVEMENT)

| 78 | 80 | 81 | 82 | 85 | 84 | 78 | 88 | 86 | 88 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 76 | 80 | 78 | 83 | 88 | 80 | 84 | 78 | 86 | 78 |
| 75 | 78 | 86 | 86 | 85 | 80 | 78 | 80 | 80 | 80 |
| 80 | 80 | 85 | 82 | 78 | 88 | 78 | 86 | 79 | 88 |
| 56 | 80 | 79 | 80 | 80 | 80 | 80 | 76 | 85 | 75 |
| 76 | 80 | 74 | 78 | 76 | 85 | 76 | 83 | 82 |  |

a. Highest score $=88$
b. Lowest score $=74$
c. Range.

$$
\begin{aligned}
\mathrm{R} & =88-74 \\
& =14
\end{aligned}
$$

d. The total of class $=1+3.3 \log n$.

$$
\begin{aligned}
& =1+3.3 \log (59) \\
& =1+3.3 .1,7708 \\
& =1+5.8438 \\
& =6.8438 \\
& =7
\end{aligned}
$$

e. Length of Classes (i)

$$
I=\frac{\text { range }}{\text { total of class }}=\frac{14}{7}=2
$$

$$
I=2
$$

f. Mean Score

| No | Interval <br> Class | F | X | FX | Fkb | Fka |
| :--- | :---: | :--- | :--- | :--- | :--- | :---: |
| 1. | $74-75$ | 3 | 74.5 | 223.5 | $\mathrm{~N}=59$ | 3 |


| 2. | $76-77$ | 5 | 76.5 | 382.5 | 56 | 8 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| 3. | $78-79$ | 13 | 78.5 | 1020.5 | 51 | 21 |
| 4. | $80-81$ | 15 | 80.5 | 1207.5 | 38 | 36 |
| 5. | $82-83$ | 5 | 82.5 | 412.5 | 23 | 41 |
| 6. | $84-85$ | 8 | 84.5 | 676 | 18 | 49 |
| 7. | $86-87$ | 5 | 86.5 | 432.5 | 10 | 54 |
| 8. | $88-89$ | 5 | 88.5 | 442.5 | 5 | $59=\mathrm{N}$ |
| Total | 59 |  | 4797.5 |  |  |  |

Mean (Y)

$$
\mathrm{X}=\frac{F X}{N}
$$

$$
=\frac{4797,5}{59}
$$

$$
=81,31
$$

g. Median

| No | Interval <br> Class | F | X | FX | Fkb | Fka |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. | $74-75$ | 3 | 74.5 | 223.5 | $\mathrm{~N}=59$ | 3 |
| 2. | $76-77$ | 5 | 76.5 | 382.5 | 56 | 8 |
| 3. | $78-79$ | 13 | 78.5 | 1020.5 | 51 | 21 |
| 4. | $80-81$ | 15 | 80.5 | 1207.5 | 38 | 36 |
| 5. | $82-83$ | 5 | 82.5 | 412.5 | 23 | 41 |
| 6. | $84-85$ | 8 | 84.5 | 676 | 18 | 49 |
| 7. | $86-87$ | 5 | 86.5 | 432.5 | 10 | 54 |
| 8. | $88-89$ | 5 | 88.5 | 442.5 | 5 | $59=\mathrm{N}$ |
| Total |  | 59 |  | 4797.5 |  |  |

Position of Me in the internal of classes is number 5, that:
Bb
$=79,5$
F

$$
=21
$$

\[

\]

h. Modus

| No | Interval <br> Class | F | X | FX | Fkb | Fka |
| :--- | :---: | :---: | :--- | :--- | :--- | :--- |
| 1. | $74-75$ | 3 | 74,5 | 223,5 | $\mathrm{~N}=59$ | 3 |
| 2. | $76-77$ | 5 | 76,5 | 382,5 | 56 | 8 |
| 3. | $78-79$ | 13 | 78,5 | 1020,5 | 51 | 21 |
| 4. | $80-81$ | 15 | 80,5 | 1207,5 | 38 | 36 |
| 5. | $82-83$ | 5 | $\mathbf{8 2 , 5}$ | $\mathbf{4 1 2 , 5}$ | $\mathbf{2 3}$ | $\mathbf{4 1}$ |
| 6. | $84-85$ | 8 | 84,5 | 676 | 18 | 49 |
| 7. | $86-87$ | 5 | 86,5 | 432,5 | 10 | 54 |
| 8. | $88-89$ | 5 | 88,5 | 442,5 | 5 | $59=\mathrm{N}$ |
| Total |  |  |  |  |  |  |

$\mathrm{Mo}=\mathrm{L}+\frac{d_{1}}{d_{1}+d_{2}} . \mathrm{i}$
$\mathrm{L}=79.5$
$\mathrm{d} 1=2$
d2 $=10$
So,

$$
\begin{aligned}
\mathrm{Mo} & =79.5+\left(\frac{2}{2+10}\right) 2 \\
& =79.5+(0.16) \\
& =79.5+0.32 \\
& =79.82
\end{aligned}
$$

## APPENDIX 11

Reliability Statistics

| Cronbach's <br> Alpha | N of Items |
| ---: | ---: |
| , 574 | 15 |

Item-Total Statistics

|  | Scale Mean if <br> Item Deleted | Scale Variance <br> if Item Deleted | Corrected Item- <br> Total Correlation | Cronbach's <br> Alpha if Item <br> Deleted |
| :--- | ---: | ---: | ---: | ---: |
| X1 | 55,8983 | 24,403 | ,- 148 | , 608 |
| X2 | 56,1695 | 22,005 | , 164 | , 566 |
| X3 | 56,1695 | 22,178 | , 125 | , 573 |
| X4 | 56,1695 | 21,591 | , 245 | , 553 |
| X5 | 56,1186 | 22,348 | , 143 | , 569 |
| X6 | 56,2881 | 20,450 | , 385 | , 527 |
| X7 | 56,2881 | 23,002 | , 025 | , 590 |
| X8 | 56,4068 | 22,004 | , 111 | , 578 |
| X9 | 56,5424 | 19,839 | , 391 | , 521 |
| X10 | 56,1695 | 20,591 | , 314 | , 538 |
| X11 | 56,2881 | 20,588 | , 365 | , 531 |


| X12 | 56,1356 | 22,533 | , 095 | , 577 |
| :--- | :--- | :--- | :--- | :--- |
| X13 | 56,6271 | 20,238 | , 272 | , 545 |
| X14 | 56,4068 | 19,866 | , 330 | , 532 |
| X15 | 56,5932 | 19,763 | , 349 | , 528 |

## APPENDIX 12

## NORMALITY TEST OF VARIABLE Y

| No | Interval <br> Class | F | X | X | fx | $\mathrm{x}^{2}$ | $\mathrm{fx}^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. | 74-75 | 3 | 74.5 | +3 | 9 | 9 | 27 |
| 2. | 76-77 | 5 | 76.5 | +2 | 10 | 4 | 20 |
| 3. | 78-79 | 13 | 78.5 | +1 | 13 | 1 | 13 |
| 4. | 80-81 | 15 | 80.5 | 0 | 0 | 0 | 0 |
| 5. | 82-83 | 5 | 82.5 | -1 | -5 | 1 | 5 |
| 6. | 84-85 | 8 | 84.5 | -2 | -16 | 4 | 32 |
| 7. | 86-87 | 5 | 86.5 | -3 | -15 | 9 | 45 |
| 8. | 88-89 | 5 | 88.5 | -4 | -20 | 16 | 80 |
|  | $i=4$ | 59 |  |  | -24 |  | 222 |
|  |  |  |  |  |  |  |  |

$$
\mathbf{S D}_{\mathrm{t}}=i \sqrt{\frac{\sum f x^{2}}{n}-\left(\frac{\sum f x}{n}\right)^{2}}
$$

$$
\begin{aligned}
& =4 \sqrt{\frac{222}{59}-\left(\frac{-24}{59}\right)^{2}} \\
& =4 \sqrt{3,76-(-0,40)^{2}} \\
& =4 \sqrt{3,76-0,16} \\
& =4 \sqrt{3,6} \\
& =4 \times 3,6 \\
& =14,4
\end{aligned}
$$

## APPENDIX 13

One-Sample Kolmogorov-Smirnov Test

| One-Sample Koimogorov-Smirnov Test |  |  |
| :--- | :--- | ---: |
| N |  | y |
| Normal Parameters ${ }^{\text {a,b }}$ | Mean | 59 |
|  | Std. Deviation | 31,03 |
| Most Extreme Differences | Absolute | , 1955 |
|  | Positive | , 199 |
|  | Negative | ,- 119 |
| Test Statistic |  | , 199 |
| Asymp. Sig. (2-tailed) |  | , $000^{\mathrm{c}}$ |

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

## APPENDIX 14

## HOMOGENITY TEST OF VARIABLE Y

Calculation of parameter to get variant of variable Y used homogeneity test by using formula:

$$
\mathrm{S}^{2}=\frac{N \sum x \mathrm{i}^{2}-\left(\sum \mathrm{xi}\right)^{2}}{n(n-1)}
$$

Hypotheses
$\mathrm{H}_{0} \quad: \quad \delta_{1}^{2}=\delta_{2}^{2}$
$\mathrm{H}_{1} \quad: \delta^{2} \neq \delta^{2}$
B. Variant of Data Y

| No. | $\mathbf{Y i}$ | $\mathbf{Y}^{\mathbf{2}}$ |
| :---: | :---: | :---: |
| 1. | 50 | 6084 |
| 2. | 59 | 6084 |
| 3. | 62 | 6561 |


| 4. | 58 | 6724 |
| :---: | :---: | :---: |
| 5. | 59 | 7225 |
| 6. | 55 | 7056 |
| 7. | 53 | 6084 |
| 8. | 63 | 7744 |
| 9. | 55 | 7396 |
| 10. | 62 | 7744 |
| 11. | 55 | 5776 |
| 12. | 53 | 6400 |
| 13. | 56 | 6084 |
| 14. | 57 | 6889 |
| 15. | 65 | 7744 |
| 16. | 62 | 6400 |
| 17. | 58 | 7056 |
| 18. | 65 | 6084 |
| 19. | 56 | 7396 |
| 20. | 58 | 6084 |
| 21. | 57 | 5625 |
| 22. | 55 | 6054 |
| 23. | 54 | 7225 |
| 24. | 55 | 7396 |
| 25. | 58 | 7225 |
| 26. | 64 | 6084 |
| 27. | 60 | 6084 |
| 28. | 64 | 6400 |
| 29. | 57 | 6400 |
| 30. | 64 | 6400 |


| 31. | 54 | 6400 |
| :---: | :---: | :---: |
| 32. | 55 | 6400 |
| 33. | 58 | 7225 |
| 34. | 56 | 6724 |
| 35. | 62 | 6084 |
| 36. | 58 | 7744 |
| 37. | 58 | 6084 |
| 38. | 55 | 7396 |
| 39. | 57 | 6241 |
| 40. | 55 | 7744 |
| 41. | 56 | 7396 |
| 42. | 56 | 6400 |
| 43. | 61 | 6241 |
| 44. | 62 | 6400 |
| 45. | 46 | 6400 |
| 46. | 58 | 6400 |
| 47. | 62 | 6400 |
| 48. | 61 | 5776 |
| 49. | 58 | 7225 |
| 50. | 58 | 5625 |
| 51. | 49 | 5776 |
| 52. | 50 | 6400 |
| 53. | 57 | 5476 |
| 54. | 62 | 6084 |
| 55. | 46 | 5776 |
| 56. | 57 | 7225 |
| 57. | 59 | 5776 |


| 58. | 58 | 6889 |
| :---: | :---: | :---: |
| 59. | 43 | 6724 |
| Total | $\sum x \mathrm{i}^{=} 4781$ | $\sum x \mathrm{i}^{2}=387939$ |

$\mathrm{n} \quad=59$
$\sum \mathrm{xi}=4781$
$\sum \mathrm{x}^{2}=387939$

So,

$$
\begin{aligned}
S^{2} & =\frac{N \sum x^{2}-\left(\sum \mathrm{xi}\right)^{2}}{n(n-1)} \\
& =\frac{59(387939)-(4781)^{2}}{59(59-1)} \\
& =\frac{22888401-22857961}{3422} \\
& =\frac{30440}{3422} \\
& =8.89 \\
& =29.81
\end{aligned}
$$

The formula used to test hypothesis was:
F $=\frac{\text { The Biggest Variant }}{\text { The Smallest Variant }}$
$=\frac{150.56}{29.81}$
$=5.05$
After doing the calculation, reseracher found that that $\mathrm{F}_{\text {count }}=5.05$ with $\alpha 5 \%$ and $\mathrm{dk}=57$, From the distribution list F , researcher found that $\mathrm{F}_{\text {table }}=4.01$.

## APPENDIX 15

THE RESULT OF VARIABLE X AND VARIABLE Y

| No | Initial of the Students | VARIABLE X | VARIABLE Y |
| :---: | :---: | :---: | :---: |
| 1. | SW | 50 | 78 |
| 2. | NS | 59 | 80 |
| 3. | DP | 62 | 81 |
| 4. | SA | 58 | 82 |
| 5. | LI | 59 | 85 |
| 6. | NDR | 55 | 84 |
| 7. | JS | 53 | 78 |
| 8. | SA | 63 | 88 |
| 9. | NA | 55 | 86 |
| 10. | SA | 62 | 88 |
| 11. | CA | 55 | 76 |
| 12. | ND | 53 | 80 |
| 13. | PDK | 56 | 78 |
| 14. | NAS | 57 | 83 |
| 15. | RTH | 65 | 88 |
| 16. | LS | 62 | 80 |
| 17. | RAS | 58 | 84 |
| 18. | IBV | 65 | 78 |
| 19. | AA | 56 | 86 |
| 20. | LD | 58 | 78 |
| 21. | RSP | 57 | 75 |
| 22. | NM | 55 | 78 |
| 23. | RJ | 54 | 85 |
| 24. | AJ | 55 | 86 |
| 25. | EPS | 58 | 85 |


| 26. | SP | 64 | 78 |
| :---: | :---: | :---: | :---: |
| 27. | YS | 60 | 78 |
| 28. | SH | 64 | 80 |
| 29. | RRP | 57 | 80 |
| 30. | IP | 64 | 80 |
| 31. | NF | 54 | 80 |
| 32. | TS | 55 | 80 |
| 33. | M | 58 | 85 |
| 34. | MAD | 56 | 82 |
| 35. | LS | 62 | 78 |
| 36. | PH | 58 | 88 |
| 37. | SH | 58 | 78 |
| 38. | R | 55 | 86 |
| 39. | JSS | 57 | 79 |
| 40. | SW | 55 | 88 |
| 41. | ED | 56 | 86 |
| 42. | F | 56 | 80 |
| 43. | RW | 61 | 79 |
| 44. | ISH | 62 | 80 |
| 45. | OMS | 46 | 80 |
| 46. | SPT | 58 | 80 |
| 47. | HO | 62 | 80 |
| 48. | A | 61 | 76 |
| 49. | RF | 58 | 85 |
| 50. | TA | 58 | 75 |
| 51. | DAP | 49 | 76 |
| 52. | FKH | 50 | 80 |
| 53. | DYS | 57 | 74 |
| 54. | AHH | 62 | 78 |
| 55. | RHR | 46 | 76 |
| 56. | KS | 57 | 85 |
| 57. | SWN | 59 | 76 |
| 58. | SWR | 58 | 83 |
| 59. | AA | 43 | 82 |
| Tota |  | 3376 | 4781 |

## APPENDIX 16

STATISTICS ANALYSYS OF DATA

| No | x | y | $\mathrm{X}^{2}$ | $\mathrm{Y}^{2}$ | xy |
| :---: | :---: | :---: | :---: | :---: | ---: |
| 1. | 50 | 78 | 2500 | 6084 | 3900 |
| 2. | 59 | 80 | 3481 | 6084 | 4720 |
| 3. | 62 | 81 | 3844 | 6561 | 5022 |
| 4. | 58 | 82 | 3364 | 6724 | 4756 |
| 5. | 59 | 85 | 3481 | 7225 | 5015 |
| 6. | 55 | 84 | 3025 | 7056 | 4620 |
| 7. | 53 | 78 | 2809 | 6084 | 4134 |
| 8. | 63 | 88 | 3969 | 7744 | 5544 |
| 9. | 55 | 86 | 3025 | 7396 | 4730 |
| 10. | 62 | 88 | 3844 | 7744 | 5456 |
| 11. | 55 | 76 | 3025 | 5776 | 4180 |
| 12. | 53 | 80 | 2809 | 6400 | 4240 |
| 13. | 56 | 78 | 3136 | 6084 | 4368 |
| 14. | 57 | 83 | 3249 | 6889 | 4731 |
| 15. | 65 | 88 | 4225 | 7744 | 5720 |
| 16. | 62 | 80 | 3844 | 6400 | 4960 |
| 17. | 58 | 84 | 3364 | 7056 | 4872 |
| 18. | 65 | 78 | 4225 | 6084 | 5070 |
| 19. | 56 | 86 | 3136 | 7396 | 4816 |
| 20. | 58 | 78 | 3364 | 6084 | 4524 |
| 21. | 57 | 75 | 3249 | 5625 | 4275 |
| 22. | 55 | 78 | 3025 | 6054 | 4290 |
| 23. | 54 | 85 | 2916 | 7225 | 4590 |
| 24. | 55 | 86 | 3025 | 7396 | 4730 |
| 25. | 58 | 85 | 3364 | 7225 | 4930 |
| 26. | 64 | 78 | 4096 | 6084 | 4992 |


| 27. | 60 | 78 | 3600 | 6084 | 4680 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 28. | 64 | 80 | 4096 | 6400 | 5120 |
| 29. | 57 | 80 | 3249 | 6400 | 4560 |
| 30. | 64 | 80 | 4096 | 6400 | 5120 |
| 31. | 54 | 80 | 2916 | 6400 | 4320 |
| 32. | 55 | 80 | 3025 | 6400 | 4400 |
| 33. | 58 | 85 | 3364 | 7225 | 4930 |
| 34. | 56 | 82 | 3136 | 6724 | 4592 |
| 35. | 62 | 78 | 3844 | 6084 | 4836 |
| 36. | 58 | 88 | 3364 | 7744 | 5104 |
| 37. | 58 | 78 | 3364 | 6084 | 4524 |
| 38. | 55 | 86 | 3025 | 7396 | 4730 |
| 39. | 57 | 79 | 3249 | 6241 | 4503 |
| 40. | 55 | 88 | 3025 | 7744 | 4840 |
| 41. | 56 | 86 | 3136 | 7396 | 4816 |
| 42. | 56 | 80 | 3136 | 6400 | 4480 |
| 43. | 61 | 79 | 3721 | 6241 | 4819 |
| 44. | 62 | 80 | 3844 | 6400 | 4960 |
| 45. | 46 | 80 | 2116 | 6400 | 3680 |
| 46. | 58 | 80 | 3364 | 6400 | 4640 |
| 47. | 62 | 80 | 3844 | 6400 | 4960 |
| 48. | 61 | 76 | 3721 | 5776 | 4636 |
| 49. | 58 | 85 | 3364 | 7225 | 4930 |
| 50. | 58 | 75 | 3364 | 5625 | 4350 |
| 51. | 49 | 76 | 2401 | 5776 | 3724 |
| 52. | 50 | 80 | 2500 | 6400 | 4000 |
| 53. | 57 | 74 | 3249 | 5476 | 4218 |
| 54. | 62 | 78 | 3844 | 6084 | 4836 |
| 55. | 46 | 76 | 2116 | 5776 | 3496 |
| 56. | 57 | 85 | 3249 | 7225 | 4845 |
| 57. | 59 | 76 | 3481 | 5776 | 4484 |
| 58. | 58 | 83 | 3364 | 6889 | 4814 |
| 59. | 43 | 82 | 1849 | 6724 | 3526 |
| Total | 3376 | 4781 | 194410 | 387939 | 273658 |
|  |  |  |  |  |  |

## APPENDIX 17

NILAI-NILAI DALAM DISTRIBUSI t

| $\mathrm{df}^{\mathrm{Pr}}$ | $\begin{aligned} & 0.25 \\ & 0.50 \end{aligned}$ | $\begin{aligned} & 0.10 \\ & 0.20 \end{aligned}$ | $\begin{aligned} & 0.05 \\ & 0.10 \end{aligned}$ | $\begin{aligned} & 0.025 \\ & 0.050 \end{aligned}$ | $\begin{aligned} & 0.01 \\ & 0.02 \end{aligned}$ | $\begin{aligned} & 0.005 \\ & 0.010 \end{aligned}$ | $\begin{aligned} & 0.001 \\ & 0.002 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 41 | 0.68052 | 1.30254 | 1.68288 | 2.01954 | 2.42080 | 2.70118 | 3.30127 |
| 42 | 0.68038 | 1.30204 | 1.68195 | 2.01808 | 2.41847 | 2.69807 | 3.29595 |
| 43 | 0.68024 | 1.30155 | 1.68107 | 2.01669 | 2.41625 | 2.69510 | 3.29089 |
| 44 | 0.68011 | 1.30109 | 1.68023 | 2.01537 | 2.41413 | 2.69228 | 3.28607 |
| 45 | 0.67998 | 1.30065 | 1.67943 | 2.01410 | 2.41212 | 2.68959 | 3.28148 |
| 46 | 0.67986 | 1.30023 | 1.67866 | 2.01290 | 2.41019 | 2.68701 | 3.27710 |
| 47 | 0.67975 | 1.29982 | 1.67793 | 2.01174 | 2.40835 | 2.68456 | 3.27291 |
| 48 | 0.67964 | 1.29944 | 1.67722 | 2.01063 | 2.40658 | 2.68220 | 3.26891 |
| 49 | 0.67953 | 1.29907 | 1.67655 | 2.00958 | 2.40489 | 2.67995 | 3.26508 |
| 50 | 0.67943 | 1.29871 | 1.67591 | 2.00856 | 2.40327 | 2.67779 | 3.26141 |
| 51 | 0.67933 | 1.29837 | 1.67528 | 2.00758 | 2.40172 | 2.67572 | 3.25789 |
| 52 | 0.67924 | 1.29805 | 1.67469 | 2.00665 | 2.40022 | 2.67373 | 3.25451 |
| 53 | 0.67915 | 1.29773 | 1.67412 | 2.00575 | 2.39879 | 2.67182 | 3.25127 |
| 54 | 0.67906 | 1.29743 | 1.67356 | 2.00488 | 2.39741 | 2.66998 | 3.24815 |
| 55 | 0.67898 | 1.29713 | 1.67303 | 2.00404 | 2.39608 | 2.66822 | 3.24515 |
| 56 | 0.67890 | 1.29685 | 1.67252 | 2.00324 | 2.39480 | 2.66651 | 3.24226 |
| 57 | 0.67882 | 1.29658 | 1.67203 | 2.00247 | 2.39357 | 2.66487 | 3.23948 |
| 58 | 0.67874 | 1.29632 | 1.67155 | 2.00172 | 2.39238 | 2.66329 | 3.23680 |
| 59 | 0.67867 | 1.29607 | 1.67109 | 2.00100 | 2.39123 | 2.66176 | 3.23421 |
| 60 | 0.67860 | 1.29582 | 1.67065 | 2.00030 | 2.39012 | 2.66028 | 3.23171 |
| 61 | 0.67853 | 1.29558 | 1.67022 | 1.99962 | 2.38905 | 2.65886 | 3.22930 |
| 62 | 0.67847 | 1.29536 | 1.66980 | 1.99897 | 2.38801 | 2.65748 | 3.22696 |
| 63 | 0.67840 | 1.29513 | 1.66940 | 1.99834 | 2.38701 | 2.65615 | 3.22471 |
| 64 | 0.67834 | 1.29492 | 1.66901 | 1.99773 | 2.38604 | 2.65485 | 3.22253 |
| 65 | 0.67828 | 1.29471 | 1.66864 | 1.99714 | 2.38510 | 2.65360 | 3.22041 |
| 66 | 0.67823 | 1.29451 | 1.66827 | 1.99656 | 2.38419 | 2.65239 | 3.21837 |
| 67 | 0.67817 | 1.29432 | 1.66792 | 1.99601 | 2.38330 | 2.65122 | 3.21639 |
| 68 | 0.67811 | 1.29413 | 1.66757 | 1.99547 | 2.38245 | 2.65008 | 3.21446 |
| 69 | 0.67806 | 1.29394 | 1.66724 | 1.99495 | 2.38161 | 2.64898 | 3.21260 |
| 70 | 0.67801 | 1.29376 | 1.66691 | 1.99444 | 2.38081 | 2.64790 | 3.21079 |
| 71 | 0.67796 | 1.29359 | 1.66660 | 1.99394 | 2.38002 | 2.64686 | 3.20903 |
| 72 | 0.67791 | 1.29342 | 1.66629 | 1.99346 | 2.37926 | 2.64585 | 3.20733 |
| 73 | 0.67787 | 1.29326 | 1.66600 | 1.99300 | 2.37852 | 2.64487 | 3.20567 |
| 74 | 0.67782 | 1.29310 | 1.66571 | 1.99254 | 2.37780 | 2.64391 | 3.20406 |


| $\mathbf{7 5}$ | 0.67778 | 1.29294 | 1.66543 | 1.99210 | 2.37710 | 2.64298 | 3.20249 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{7 6}$ | 0.67773 | 1.29279 | 1.66515 | 1.99167 | 2.37642 | 2.64208 | 3.20096 |
| $\mathbf{7 7}$ | 0.67769 | 1.29264 | 1.66488 | 1.99125 | 2.37576 | 2.64120 | 3.19948 |
| $\mathbf{7 8}$ | 0.67765 | 1.29250 | 1.66462 | 1.99085 | 2.37511 | 2.64034 | 3.19804 |
| $\mathbf{7 9}$ | 0.67761 | 1.29236 | 1.66437 | 1.99045 | 2.37448 | 2.63950 | 3.19663 |
| $\mathbf{8 0}$ | 0.67757 | 1.29222 | 1.66412 | 1.99006 | 2.37387 | 2.63869 | 3.19526 |

## APPENDIX 18.

Titik Persentase Distribusi F untuk Probabilita $=\mathbf{0 , 0 5}$

| df untuk penyebut (N2) | df untuk pembilang (N1) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 46 | 4.05 | 3.20 | 2.81 | 2.57 | 2.42 | 2.30 | 2.22 | 2.15 | 2.09 | 2.04 | 2.00 | 1.97 | 1.94 | 1.91 | 1.89 |
| 47 | 4.05 | 3.20 | 2.80 | 2.57 | 2.41 | 2.30 | 2.21 | 2.14 | 2.09 | 2.04 | 2.00 | 1.96 | 1.93 | 1.91 | 1.88 |
| 48 | 4.04 | 3.19 | 2.80 | 2.57 | 2.41 | 2.29 | 2.21 | 2.14 | 2.08 | 2.03 | 1.99 | 1.96 | 1.93 | 1.90 | 1.88 |
| 49 | 4.04 | 3.19 | 2.79 | 2.56 | 2.40 | 2.29 | 2.20 | 2.13 | 2.08 | 2.03 | 1.99 | 1.96 | 1.93 | 1.90 | 1.88 |
| 50 | 4.03 | 3.18 | 2.79 | 2.56 | 2.40 | 2.29 | 2.20 | 2.13 | 2.07 | 2.03 | 1.99 | 1.95 | 1.92 | 1.89 | 1.87 |
| 51 | 4.03 | 3.18 | 2.79 | 2.55 | 2.40 | 2.28 | 2.20 | 2.13 | 2.07 | 2.02 | 1.98 | 1.95 | 1.92 | 1.89 | 1.87 |
| 52 | 4.03 | 3.18 | 2.78 | 2.55 | 2.39 | 2.28 | 2.19 | 2.12 | 2.07 | 2.02 | 1.98 | 1.94 | 1.91 | 1.89 | 1.86 |
| 53 | 4.02 | 3.17 | 2.78 | 2.55 | 2.39 | 2.28 | 2.19 | 2.12 | 2.06 | 2.01 | 1.97 | 1.94 | 1.91 | 1.88 | 1.86 |
| 54 | 4.02 | 3.17 | 2.78 | 2.54 | 2.39 | 2.27 | 2.18 | 2.12 | 2.06 | 2.01 | 1.97 | 1.94 | 1.91 | 1.88 | 1.86 |
| 55 | 4.02 | 3.16 | 2.77 | 2.54 | 2.38 | 2.27 | 2.18 | 2.11 | 2.06 | 2.01 | 1.97 | 1.93 | 1.90 | 1.88 | 1.85 |
| 56 | 4.01 | 3.16 | 2.77 | 2.54 | 2.38 | 2.27 | 2.18 | 2.11 | 2.05 | 2.00 | 1.96 | 1.93 | 1.90 | 1.87 | 1.85 |
| 57 | 4.01 | 3.16 | 2.77 | 2.53 | 2.38 | 2.26 | 2.18 | 2.11 | 2.05 | 2.00 | 1.96 | 1.93 | 1.90 | 1.87 | 1.85 |
| 58 | 4.01 | 3.16 | 2.76 | 2.53 | 2.37 | 2.26 | 2.17 | 2.10 | 2.05 | 2.00 | 1.96 | 1.92 | 1.89 | 1.87 | 1.84 |
| 59 | 4.00 | 3.15 | 2.76 | 2.53 | 2.37 | 2.26 | 2.17 | 2.10 | 2.04 | 2.00 | 1.96 | 1.92 | 1.89 | 1.86 | 1.84 |
| 60 | 4.00 | 3.15 | 2.76 | 2.53 | 2.37 | 2.25 | 2.17 | 2.10 | 2.04 | 1.99 | 1.95 | 1.92 | 1.89 | 1.86 | 1.84 |
| 61 | 4.00 | 3.15 | 2.76 | 2.52 | 2.37 | 2.25 | 2.16 | 2.09 | 2.04 | 1.99 | 1.95 | 1.91 | 1.88 | 1.86 | 1.83 |
| 62 | 4.00 | 3.15 | 2.75 | 2.52 | 2.36 | 2.25 | 2.16 | 2.09 | 2.03 | 1.99 | 1.95 | 1.91 | 1.88 | 1.85 | 1.83 |
| 63 | 3.99 | 3.14 | 2.75 | 2.52 | 2.36 | 2.25 | 2.16 | 2.09 | 2.03 | 1.98 | 1.94 | 1.91 | 1.88 | 1.85 | 1.83 |
| 64 | 3.99 | 3.14 | 2.75 | 2.52 | 2.36 | 2.24 | 2.16 | 2.09 | 2.03 | 1.98 | 1.94 | 1.91 | 1.88 | 1.85 | 1.83 |
| 65 | 3.99 | 3.14 | 2.75 | 2.51 | 2.36 | 2.24 | 2.15 | 2.08 | 2.03 | 1.98 | 1.94 | 1.90 | 1.87 | 1.85 | 1.82 |
| 66 | 3.99 | 3.14 | 2.74 | 2.51 | 2.35 | 2.24 | 2.15 | 2.08 | 2.03 | 1.98 | 1.94 | 1.90 | 1.87 | 1.84 | 1.82 |
| 67 | 3.98 | 3.13 | 2.74 | 2.51 | 2.35 | 2.24 | 2.15 | 2.08 | 2.02 | 1.98 | 1.93 | 1.90 | 1.87 | 1.84 | 1.82 |
| 68 | 3.98 | 3.13 | 2.74 | 2.51 | 2.35 | 2.24 | 2.15 | 2.08 | 2.02 | 1.97 | 1.93 | 1.90 | 1.87 | 1.84 | 1.82 |
| 69 | 3.98 | 3.13 | 2.74 | 2.50 | 2.35 | 2.23 | 2.15 | 2.08 | 2.02 | 1.97 | 1.93 | 1.90 | 1.86 | 1.84 | 1.81 |
| 70 | 3.98 | 3.13 | 2.74 | 2.50 | 2.35 | 2.23 | 2.14 | 2.07 | 2.02 | 1.97 | 1.93 | 1.89 | 1.86 | 1.84 | 1.81 |
| 71 | 3.98 | 3.13 | 2.73 | 2.50 | 2.34 | 2.23 | 2.14 | 2.07 | 2.01 | 1.97 | 1.93 | 1.89 | 1.86 | 1.83 | 1.81 |
| 72 | 3.97 | 3.12 | 2.73 | 2.50 | 2.34 | 2.23 | 2.14 | 2.07 | 2.01 | 1.96 | 1.92 | 1.89 | 1.86 | 1.83 | 1.81 |
| 73 | 3.97 | 3.12 | 2.73 | 2.50 | 2.34 | 2.23 | 2.14 | 2.07 | 2.01 | 1.96 | 1.92 | 1.89 | 1.86 | 1.83 | 1.81 |
| 74 | 3.97 | 3.12 | 2.73 | 2.50 | 2.34 | 2.22 | 2.14 | 2.07 | 2.01 | 1.96 | 1.92 | 1.89 | 1.85 | 1.83 | 1.80 |
| 75 | 3.97 | 3.12 | 2.73 | 2.49 | 2.34 | 2.22 | 2.13 | 2.06 | 2.01 | 1.96 | 1.92 | 1.88 | 1.85 | 1.83 | 1.80 |
| 76 | 3.97 | 3.12 | 2.72 | 2.49 | 2.33 | 2.22 | 2.13 | 2.06 | 2.01 | 1.96 | 1.92 | 1.88 | 1.85 | 1.82 | 1.80 |


| $\mathbf{7 7}$ | 3.97 | 3.12 | 2.72 | 2.49 | 2.33 | 2.22 | 2.13 | 2.06 | 2.00 | 1.96 | 1.92 | 1.88 | 1.85 | 1.82 | 1.80 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{7 8}$ | 3.96 | 3.11 | 2.72 | 2.49 | 2.33 | 2.22 | 2.13 | 2.06 | 2.00 | 1.95 | 1.91 | 1.88 | 1.85 | 1.82 | 1.80 |
| $\mathbf{7 9}$ | 3.96 | 3.11 | 2.72 | 2.49 | 2.33 | 2.22 | 2.13 | 2.06 | 2.00 | 1.95 | 1.91 | 1.88 | 1.85 | 1.82 | 1.79 |
| $\mathbf{8 0}$ | 3.96 | 3.11 | 2.72 | 2.49 | 2.33 | 2.21 | 2.13 | 2.06 | 2.00 | 1.95 | 1.91 | 1.88 | 1.84 | 1.82 | 1.79 |
| $\mathbf{8 1}$ | 3.96 | 3.11 | 2.72 | 2.48 | 2.33 | 2.21 | 2.12 | 2.05 | 2.00 | 1.95 | 1.91 | 1.87 | 1.84 | 1.82 | 1.79 |
| $\mathbf{8 2}$ | 3.96 | 3.11 | 2.72 | 2.48 | 2.33 | 2.21 | 2.12 | 2.05 | 2.00 | 1.95 | 1.91 | 1.87 | 1.84 | 1.81 | 1.79 |
| $\mathbf{8 3}$ | 3.96 | 3.11 | 2.71 | 2.48 | 2.32 | 2.21 | 2.12 | 2.05 | 1.99 | 1.95 | 1.91 | 1.87 | 1.84 | 1.81 | 1.79 |
| $\mathbf{8 4}$ | 3.95 | 3.11 | 2.71 | 2.48 | 2.32 | 2.21 | 2.12 | 2.05 | 1.99 | 1.95 | 1.90 | 1.87 | 1.84 | 1.81 | 1.79 |
| $\mathbf{8 5}$ | 3.95 | 3.10 | 2.71 | 2.48 | 2.32 | 2.21 | 2.12 | 2.05 | 1.99 | 1.94 | 1.90 | 1.87 | 1.84 | 1.81 | 1.79 |
| $\mathbf{8 6}$ | 3.95 | 3.10 | 2.71 | 2.48 | 2.32 | 2.21 | 2.12 | 2.05 | 1.99 | 1.94 | 1.90 | 1.87 | 1.84 | 1.81 | 1.78 |
| $\mathbf{8 7}$ | 3.95 | 3.10 | 2.71 | 2.48 | 2.32 | 2.20 | 2.12 | 2.05 | 1.99 | 1.94 | 1.90 | 1.87 | 1.83 | 1.81 | 1.78 |
| $\mathbf{8 8}$ | 3.95 | 3.10 | 2.71 | 2.48 | 2.32 | 2.20 | 2.12 | 2.05 | 1.99 | 1.94 | 1.90 | 1.86 | 1.83 | 1.81 | 1.78 |
| $\mathbf{8 9}$ | 3.95 | 3.10 | 2.71 | 2.47 | 2.32 | 2.20 | 2.11 | 2.04 | 1.99 | 1.94 | 1.90 | 1.86 | 1.83 | 1.80 | 1.78 |
| $\mathbf{9 0}$ | 3.95 | 3.10 | 2.71 | 2.47 | 2.32 | 2.20 | 2.11 | 2.04 | 1.99 | 1.94 | 1.90 | 1.86 | 1.83 | 1.80 | 1.78 |

## APPENDIX 19

Nilai - Nilai r Product Moment
Tabel $r$ untuk df $=51$ - 100

| If $=(\mathrm{F}-2 \mathrm{y}$ | Tingkat algrifikansil untukull satu arrah |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0.05 | 0u2s | 0.01. | 0.00s | 0.000s |
|  | Tingkat signifikansil untuik ujl dua arah |  |  |  |  |
|  | 0.1 | 0.05 | 0.02 | 0.01 | 0.001 |
| 51 | 02284 | 02706 | 0.31385 | 103509 | 0.393 |
| 52 | 02262 | 02681 | 0.3153 | $103+77$ | 0.4354 |
| 53 | 02241 | 02655 | 0.3129 | 013+43 | $0+317$ |
| 54 | 02221 | 02632 | 0.3102 | $0.3+15$ | $0+280$ |
| 55 | 02201 | 02609 | 0.3074 | 03735 | $0+2+4$ |
| 56 | 02131 | 023E5 | 0.3048 | 03757 | 0.210 |
| 57 | 021E2 | 02384 | 0.3022 | 03328 | 0.475 |
| 53 | 0214 | $025-2$ | 02987 | 03301 | $0+143$ |
| 59 | 02126 | 02521 | 02972 | 01374 | $0+110$ |
| 60 | 02108 | 02300 | 02943 | 03248 | $0+079$ |
| 6il | 02091 | 02480 | 02925 | 01223 | $0+045$ |
| 62 | 02073 | 22+61 | 02902 | 03198 | $0+018$ |
| 63 | 02008 |  | 02859 | 03173 | 03938 |
| 64 | 02042 | 02423 | 02838 | 03150 | 03939 |
| 65 | 02027 | 02404 | 0.2837 | 03126 | 03931 |
| 6isi | 02012 | 02387 | 02816 | 03104 | 0.3503 |
| 67 | 01997 | 02369 | 02796 | 03.061 | 0.3576 |
| 63 | 01952 | 0235 | 02776 | 03060 | 03550 |
| 69 | 019ES | 02335 | 02756 | 03.088 | 03323 |
| 70 | 01954 | 02319 | 02737 | 03517 | 03758 |
| 71 | $0.19+0$ | 02303 | 02713 | 02997 | 03773 |
| 72 | 01927 | 02287 | 02700 | 02977 | 03748 |
| 73 | 01914 | 02272 | 02652 | 02957 | 03724 |
| 74 | 01901 | 02257 | 02654 | 02938 | 03701 |
| 75 | 013ss | 022-2 | 02647 | 02919 | 0.3578 |
| 76 | 01876 | 02227 | 0.2630 | 02900 | 0.3575 |
| 77 | 01364 | 02213 | 02613 | 02832 | 0.3533 |
| 78 | 01832 | 02199 | 02597 | 02954 | 0.3511 |
| 79 | 01341 | 02185 | 02531 | 02347 | 03339 |
| 30 | 01329 | 02172 | 0255 | $02 \mathrm{sa0}$ | 03365 |
| 31 | 01318 | 02159 | 02530 | 02313 | 0.3547 |
| 32 | 01307 | 021-6 | 0.2535 | 12796 | 0.3527 |
| 33 | 01796 | 02133 | 0.2520 | 02730 | 03307 |
| 34 | 01785 | 02120 | 02505 | 6276 | $03+87$ |
| 35 | 01773 | 02105 | 02-91 | 02748 | $03+65$ |
| 36 | 017E5 | 02095 | $02+77$ | 02732 | $03+49$ |
| 37 | 01753 | 02054 | $02+53$ | 02717 | $03+30$ |
| 35 | 10.745 | 02072 | 0.24+9 | 102702 | $0.3+12$ |
| 59 | 0.1735 | 02061 | 0.2435 | 02583 | 013393 |
| 90 | 01726 | 02050 | 02-22 | 02573 | 03375 |
| 91 | 01716 | 02039 | 02498 | 02559 | 03358 |
| 92 | 01707 | 02023 | 02306 | 02545 | 03341 |
| 93 | 01696 | 02017 | 02354 | 02531 | 03323 |
| 94 | 01639 | 02006 | 02371 | 02517 | 033107 |
| 95 | 01630 | 0.1995 | 02359 | 02504 | 03720 |
| 96 | 01671 | 0.1985 | 02347 | 02381 | 03274 |
| 97 | OLEES | 0.1975 | 02335 | 02578 | 03258 |
| 93 | 01654 | 0.1966 | 0.2324 | 02363 | 03242 |
| 99 | 91546 | 01955 | 02312 | 10253 | 03726 |
| 100 | D1E3S | 0.1945 | 02301 | 02540 | 03211 |



APPENDIX 20







## CURRICULUM VITAE

## A. Identity

Name : Paujia Siregar

Reg. Number : 1720300057
Place/ Birth : Aek Haruaya, August $19^{\text {th }} 1999$
Sex : Female
Religion : Islam
Address : Desa Aek Haruaya
B. Parents

Father's Name
: Maraombun Siregar
Mother's Name : Siti Asani Nasution

## C. Educational Background

1. Elementary School : SDN 101580 Aek Haruaya 2011
2. Junior High School : SMP N 1 Padang Bolak, 2014
3. Senior High School : SMK Negeri 1 Padangsidimpuan, 2017
4. University : IAIN Padangsidimpuan, 2017 until now

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