



**THE RELATIONSHIP BETWEEN LEFT BRAIN DOMINANCE
WITH STUDENTS' ABILITY IN WRITING
AT GRADE XI SMA NEGERI 2 PADANGSIDIMPUAN**

A THESIS

*Submitted to the State Institute for Islamic Studies Padangsidimpuan
as a Partial Fulfillment of the Requirement for the Degree of Education
Science*

Written By

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PADANGSIDIMPUAN**

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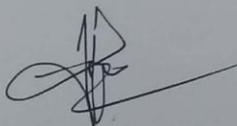
Assalamu'alaikum wr. wb.

After reading, studying, and giving advice for necessary revision on thesis belongs to Nurlanni Khoiriah entitled "**Relationship Between Left Brain Dominance with Students' Ability in Writing at Grade XI SMA Negeri 2 Padangsidempuan**". 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 Department, Tarbiyah and Teacher Training Faculty in IAIN Padangsidempuan.

Therefore, we hope that thesis will soon be examined by the thesis examiners team of English Department of Tarbiyah and Teacher Training Faculty IAIN Padangsidempuan. Thank you.

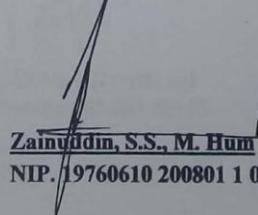
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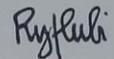
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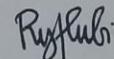

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Hope, all of them given health always and all the kindness will be replied by Allah Swt. This thesis is still so far from being perfect based on the weakness of the research. Therefore, I accept the constructive criticism and suggestions from the readers in order to improve this thesis.

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ABSTRACT

The problems of this research are students feel that writing is difficult, students have limited knowledge in using vocabulary and tenses. Further, this is caused students are afraid to do mistakes, do not practice it every day, and do not have the writing in paper. The purpose of this research was to know how significant the relationship between left brain dominance with students' ability in writing at grade XI students of SMA Negeri 2 Padangsidempuan.

The kind of this research was quantitative research with relationship method. The population of this research was the grade XI students of SMA Negeri 2 Padangsidempuan which the total was 36 person from population. It was taken by using random sampling. The researcher used questionnaire to know students' left brain and test to know students' ability in writing on collecting data. To analyze the data, the researcher used Product Moment formula.

After analyzing the data, the researcher found that mean score of variable X was 70.22 and mean score of variable Y was 72.77. Besides, the score of r_{xy} was higher than r_{table} ($0.290 < 1.697$). The result showed that there was relationship between two variables but in good category. It means the hypothesis (H_0) was accepted. It was concluded that there was relationship between left brain dominance with students' ability in writing at grade XI students of SMA Negeri 2 Padangsidempuan in good category.

Keywords: *Left Brain Dominance, Students' Ability, and Writing*

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ABSTRACT

Permasalahan dalam penelitian ini adalah siswa merasa bahwa menulis itu sulit, siswa memiliki pengetahuan yang terbatas dalam menggunakan kosa kata dan bentuk kata. Selanjutnya, ini disebabkan siswa takut melakukan kesalahan, tidak mempraktikkannya setiap hari, dan tidak memiliki tulisan di kertas. Tujuan dari penelitian ini adalah untuk mengetahui seberapa signifikan hubungan antara dominasi otak kiri dengan kemampuan siswa dalam menulis pada siswa kelas XI SMA Negeri 2 Padangsidempuan.

Jenis penelitian ini adalah penelitian kuantitatif dengan metode hubungan. Populasi penelitian ini adalah siswa kelas XI SMA Negeri 2 Padangsidempuan yang berjumlah 36 orang dari populasi. Pengambilan sampel dilakukan secara acak. Peneliti menggunakan kuesioner untuk mengetahui otak kiri siswa dan menguji untuk mengetahui kemampuan siswa dalam menulis tentang pengumpulan data. Untuk menganalisis data, peneliti menggunakan rumus Product Moment.

Setelah menganalisis data, peneliti menemukan bahwa skor rata-rata variabel X adalah 70,05 dan skor rata-rata variabel Y adalah 71,80. Selain itu, skor rxy lebih tinggi dari r tabel ($0,290 < 1,697$). Hasil penelitian menunjukkan bahwa ada hubungan antara dua variabel tetapi dalam kategori baik. Ini berarti hipotesis (H_0) diterima. Disimpulkan bahwa ada hubungan antara dominasi otak kiri dengan kemampuan siswa dalam menulis pada siswa kelas XI SMA Negeri 2 Padangsidempuan dalam kategori baik.

Kata kunci: *Dominasi Otak Kiri, Kemampuan Siswa, dan Menulis*

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CHAPTER I

INTRODUCTION

A. Background of the Problem

Writing is a process of creativity pouring ideas that exist in the mind into the form of writing with a specific purpose. Writing is one skill of language that should be known when learning a language. Skill in writing is a basic necessity in the academic environment, and even the nonacademic students don't need to has report and term papers, occasionally need to write message, memo, invitation, and the like. Writing is an activity where one can convey information to the reader without the same voice, place and time. So, with writing someone can receive information submitted by the author to the reader.

According Hamps Lyons 1990 in O'Malley "writing is a personal act in which writers take ideas or prompts and transform them into 'self-initiat-ed' topics. The writer draws on background knowledge and complex mental processes in developing new insights".¹ So, it can be concluded that writing is a knowledge, that is knowing what is in the mind and then pored into the form of writing. Here are some important of writing:

The first, writing improves creativity and exploration, with writing students will be creative because the writing requires creativity and skills upgrading. Writing can help students to develop their imagination, exploration,

¹J. Michael O'Malley & Lorraine Valdez Pierce, *Authentic Assessment for English Language Learners*, (America: Addison Wesley Publishing Company, 1996), p. 136.

problem solving, and writing is also the most appropriate way to express yourself. It is make students improves creativity, concept, and style of writing.

The second, writing can give money product. Writing is one expensive skill, if students do it seriously. Writing students will produce various creation such as novels, short stories, article, and magazine. So, students will be known and famous, students can also make extra money from selling their work.

The last, writing can add knowledge. The more often writing will add a lot of knowledge such as vocabulary, writing style, and writing also forces us to think harder. Writing is also the strength of all students knowledge in many ways. It is make students can have knowledge through experience.

Based on the explanation above, it is undeniably that writing is necessary for everybody in variety of purpose and needs. The fact is revealed in the following illustration. It has found from the English teacher and the students.

The first, students lack of vocabulary mastery. Based on information from the English teacher in SMA Negeri 2 Padangsidempuan. Based on Minimal of Complete Criteria (KKM) for English subjects of grade XI is 75. Based on the data found shows the average students ability in writing is still low with a standard score in class XI.² So, it is really understood that vocabulary is important. Further, one way to get and add vocabulary is by reading books, magazine, and newspaper. The more vocabulary the easier it will be to

²Buku Kumpulan Nilai SMA Negeri 2 Padangsidempuan, *Private Document*, (SMA Negeri 2 Padangsidempuan: October 28th, 2017 at 08.30 a.m).

understand and be able to express the contents of thoughts both verbally and in writing.

The second, teacher said “one part of grammar that is difficult to understand by students is tenses”. Based on the information from the English teacher Mr. Edy Safrul, grammar is not always easy to understand. It is make students are lazy to learn of tenses.³ So, by learning English grammar can improve the ability to use effective styles to practice expression in speaking and writing.

The last, students are less motivation. Based on information from one of the students on English learning. Sri Putri Anggraini said “motivation of the parents and teachers will help the students to remain passionate in writing”. It is make students lazy to write because there is no motivation from them.⁴ So, motivation from teachers and parents has an important role because it can move students so that they can generate desire to improve learning achievement so that educational goals are achieved.

For supporting this research, Fateme Sharifi Matin said relation between left brain dominance test with students’ ability in writing. She stated in her journal that both sides of the brain are able to analyze process and store information from thoughts and ideas and also make decisions, but one side of it

³Edy Safrul as English Teacher in class XI, Private Interview (SMA Negeri 2 Padangsidempuan: October 28th, 2017 at 08.30 a.m).

⁴Sri Putri Anggraini as a student in the XI, *Private Interview*, (SMA Negeri 2 Padangsidempuan: October 28th, 2017 at 09.30 a.m).

is usually more dominant than the other side.⁵ Based on the theory, the researcher wanted to prove this theory on this research, whether it is true or not for the students in SMA Negeri 2 Padangsidempuan.

B. Identification of the Problems

Based on the background of the problem above, writing is one of the important skill must be mastered by students. Generally, writing is related to exploring sentences and paragraphs in a clear direct way. It can be said that writing is the activity to explore his/her ideas into sentence and then he/she arrange them into paragraph.

There are some factors that has relation to students ability in writing, such as mood, idea, knowledge, vocabulary and left brain.

C. The Limitation of the Problem

Based on identification of the problem above, the researcher limited the discussion in left brain. Left brain usually is good at analyzing and logical thinking processes in writing so that it can cause new relationships and ideas. So, the researcher is very interested in using the relationship between left brain dominance with students' ability in writing at grade XI SMA Negeri 2 Padangsidempuan.

⁵Fateme Sharifi Matin, *On the Relationship between Right brain and Left brain Dominance and Reading Comprehension Test Performance of Iranian EFL Learners*, retrieved from <https://www.researchgate.net/.../251713733> The effect of ... at February 2018.

D. The Formulation of the Problem

Based on limitation of the problem above, the formulation of the problem is:

1. How is the students' left brain dominance at grade XI of SMA Negeri 2 Padangsidempuan?
2. How is the students' writing ability at grade XI of SMA Negeri 2 Padangsidempuan?
3. Is there significant relationship between left brain dominance with students' writing ability at grade XI SMA Negeri 2 Padangsidempuan?

E. The Purpose of the Research

Based on the formulation of the problem above, the purpose of the research as follow:

1. To describe students' left brain dominance at grade XI of SMA Negeri 2 Padangsidempuan.
2. To describe the students' writing ability at grade XI of SMA Negeri 2 Padangsidempuan.
3. To know whether there is the relationship between left brain dominance to students' ability in writing at grade XI SMA Negeri 2 Padangsidempuan.

F. Significances of the Research

The significances of the research are:

1. As information for leader of SMA Negeri 2 Padangsidempuan about left brain dominance to students' ability in writing of students in SMA Negeri 2 Padangsidempuan.
2. For English teachers, to develop English teaching especially in English teaching.
3. For the next researchers, who want to do research the same problem as information about the topics or as reference for researcher in the next time.

G. Definition of Operational Variable

The researcher explains the variable as below:

1. Left Brain Dominance (Variable X)

The left brain is the part of the cerebrum which is in the left position.

Left brain is one of the most important organs in the body that plays a role in controlling the entire center of the nervous system and the structure of nerve cells.

2. Students' Ability in Writing (Variable Y)

Writing ability is the ability to express ideas, knowledge, feelings rationally by using written language as a medium.

H. The Outline Thesis

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

In the chapter one consists of background of the problems, they were most of students' ability in writing was low, students' lack vocabulary, and students lack of understand to grammar. Identification of the problems, formulation of the problem, limitation of the problem, purpose of the research, significances of the research, definition of key terms, and the outline of the thesis.

In the chapter two were theoretical descriptions which it was explained about writing, writing ability and right and left brain dominance. Then, review of related findings, conceptual framework, and hypothesis.

In the chapter three discussed of research methodology. It was explained of place and schedule of the research, the research design, population and sample, instrument of colleting, and techniques of data analysis.

In the chapter four discussed about the result of the research. The result of the research confused of the data description, influencing factor on students' ability in writing.

In the chapter five was closing that it was explained about conclusion and suggestion from the researcher.

CHAPTER II

REVIEW OF RELATED LITERATURE

A. Theoretical Description

1. Writing

a. Definition of Writing

Writing is one of language skill which is use to communicate ideas and thought indirectly or without face to face with other people.¹

To support this statement, writer provides several scientist estimations.

There are so many definition of writing, According SanggamSiahaan “writing as one the four language skills requires or group of readers. It involves the application of grammatical knowledge which includes the sentence patterns, vocabulary, or diction and cultural understanding of the target language”.² Eric Gould said “writing is or make a creative act, the act of writing is creative because its require to interpret or make sense of something: a experience, a text, an event”.³In addition, according to Kathleen T. McWhorter states “writing is an excellent means of monitoring and improving your comprehension a relation, it is also an effective learning strategy. In fact, many successful

¹M. Echols John and Hassan Shadily, *An English-Indonesia Dictionary* (Jakarta: GramediaUtama, 1976), p. 656.

²SanggamSiahaan, *The English Paragraph*, (PematangSiantar: Grahallmu, 2008), p. 2.

³Eric Gould, Robert Diyani, and William Smith, *Defenition of Writing* retrieved from <http://lib.ui.ac.id/opac/themes/libri2/detail.jsp?id=13642&lokasi=12> at Desember 08, 2017.

almost always read with a pen in hand ready to underline, mark, annotate, or paraphrase ideas. Then, after reading some students use writing to study and review the materials. The theory outlines to organize information, write summarize to condense ideas or draw to show relationship”.⁴ So, writing is a written works to express someone feeling, ideas, and thinking, and organize them into a good statement and paragraphs in order to be understand by all of the reader easily of what the writer wants to say.

Writing is the physical act of committing word or ideas to some medium, whether it is hieroglyphics inked onto parchment or an e-mail message typed into a computer. On the other hand, writing is the mental work of inventing ideas, thinking about how to express them, and organizing them into statements and paragraphs that will be clear to reader.

Writer typically serve two masters: themselves, and their own desires to express an idea of feeling and readers, also called the audience, who need to have ideas expressed in certain ways. Writers must then choose the best form for their writing a shopping list, notes from a meeting, a scholarly article, a novel, or poetry are only a few of the choices. Each of these types of writing has a different level of

⁴Kathleen T McWhorter, *Efficient and Flexible Reading*, (New York: The Lehigh Press, 1992), p. 289.

complexity, depending on its purpose.⁵ It is both a process and a product. The writer imagines, organizes, and rereads. This process of writing is often cyclical, and sometimes.

b. Objectives of Writing

Writing can add should be a stimulating, challenging activity central to all learning and development because, once we move students beyond those basic levels proficiency (grammatical structure and basic function), we then see new dimensions of expressiveness, imaginativeness, and intellectual growth that are accessible only to someone engaged in composing, whether that performance is acting, dancing, painting, or writing.

One of teacher most critical responsibilities as writing teacher is to communicate students the functions and benefits of writing. As a life time, writing serves four crucial, enduring purposes for the learner.

There are three objectives of writing.

1. Writing is an essential from of communication
Through writing we express our feelings, hopes, dreams, and joys as well as our fears, angers, and frustrations. Writing, then is a letter to the family recounting the delights of discovering new friends or the loneliness of days spent in a new environment without the supportive bonds of family. Though writing we express our ideas, plans, recommendations and our commitments. We explain to others who we are, what we believe and understand, and why we believe and understand as we do.

⁵David Nunan, *Practical English Language Teaching*, (New York: The McGraw Hill, 2003), p. 88.

2. Writing is for self-actualization

Writing as a way of discovering and developing ourselves, is a mean for self-actualization. What we learn about ourselves and develop within ourselves through writing can help us to realize our individual potential and to achieve personal goal.

3. Writing helps to control the personal environment

Students frequently view writing in English as non essential to meet third urgent and daily needs. Yet writing is closely tied to daily communication in the “real world”, and students need to be encouraged to believe that they will never attain full literacy in their second language until they have achieved competencien writing.⁶

Writing is very important for all people because it has many benefits, namely to easily convey the contents of the heart with a writing, writing can develop themselves to be better to achieve a goal, and writing can help or control the personal environment, at school or at home.

c. Kinds of Writing

Writing is classified into three broad categories such as message writing: self contain controlled writing and reflexive writing.⁷

1. Message Writing

Message writing is a kind of writing which we use for our routine work. Included in it are brief of the office or usual notes at

⁶Jane B. Hughey, *Teaching ESL Composition Principles and Techniques*, (New York: House Publishers, 1983), p. 34.

⁷*Ibid.*, p. 325.

home usually we don't need to spend much time because we know what we want to say.

2. Self Controlled Writing

Self Controlled writing contains: technical report, most essay exams, writing samples on exams, paper and articles that summarize and present information.

3. Reflexive Writing

Included in this kind of writing are personal experiences, writers recall events in their lives and reflex their meaning. Explorative or speculative articles in which writer theory about future. Students' writing papers in which they discuss the effect on an experience or recall an important event in their lives are also reflexive writing.

So, the researcher can conclude that a part of us have read about many influences on writing instruction and been introduced to general techniques for writing and evaluating student writing.

d. Purposes of Writing

Purposes in writing determines the nature of the writing. Writers who gain control over various genres have a broader repertoire of writing abilities and an increased understanding of the value of writing for interpersonal communication, for achieving their own ends than those who do not.

There are at least three purposes in writing: informative writing, expressive/narrative writing, and persuasive writing.

1. Informative writing

Writers use expository or informative writing to share knowledge and give information, directions, or ideas. Example of informative writing include describing events or experiences, analyzing concepts, speculating on causes and effects, and developing new ideas or relationship. This type of writing could include a biography about a well known person or someone from the writer's life. The writer can rely on existing knowledge or new sources of information and can cover a range of thinking skills from simple recall to analysis and synthesis. Informative writing helps writers integrate new ideas and examine existing knowledge.

2. Expressive/narrative writing

Expressive/narrative writing is a personal or imaginative expression in which the writer produces stories or essays. This type of writing is often based on observations of people, objects, and places and may include creative speculations and interpretations. It may include an autobiographical incident or a reflection in which a writer describes an occurrence in her or his own life. This type of writing is often used for entertainment, pleasure, discovery or simply, as "fun" writing and can include poems and short plays.

3. Persuasive Writing

Persuasive Writing, writers attempt to influence other and initiate action or change. This type of writing is often based on background information, facts, and examples the writer uses to support the view expressed. Writers use higher-level cognitive skills in his type of writing, such as analysis and evaluation, to argue a particular point of view in a convincing way. This type of writing might include evaluation of a book, a movie, a consumer product, or a controversial issue or problem. Writers can also use personal experience or emotional appeals to argue in support of their view. The three

purposes of writing described here can overlap, as when students write an informative, persuasive essay.⁸

The purpose of writing is to provide an understanding of students in order to be able to think logically and scientifically in describing and discussing a problem and can pour it in a systematic and structured manner.

e. Process of Writing

There are three stages of writing process, they are:⁹

1. Prewriting, in prewriting stage, students might use graphic organizers as an aid to clarify the concepts they will use in writing.
2. Writing, which takes place in classroom or at home so students can rely on both teachers and other students for feedback and support.
3. Postwriting, in which students share their writing with others, read aloud what they have written, or exchange writing with other students.

Alice Oshima states that there are four processes a good writing, they are; prewriting, organizing, writing and polishing. The explanation can be seen below:¹⁰

⁸J. Michael O'Malley & Lorraine Valdez Pierce, *Authentic Assessment for...*, p. 137-138.

⁹*Ibid.*, p. 139.

¹⁰Alice Oshima, *Introduction to Academic Writing Third Edition*, (New York: Pearson Longman, 2007), p. 16-18.

1. Prewriting

Prewriting is the way to get ideas, to choose a topic and collect ideas to explain the topic.

2. Organizing

Organizing is the writing process to organize the ideas into simple outline. Here, the students write topic sentence then they give more information about the topic sentence or write supporting sentences.

3. Writing

Writing is the next step to write a rough draft, using the outline as guide. Write a rough draft as fast as possible without stopping and don't think about the grammar, punctuation or spelling.

4. Polishing

There are two steps in polishing they are revising and editing. Revising is attack the big issues of the content organization. Editing is make into smaller issues and repair about the grammar, punctuation and mechanics.

So, can conclude that there are four the process of writing in using before make the written text.

f. Component of Writing

According to Jacob, there are five components of writing as follows:¹¹

1. Content. The writer has an ability to think creatively to develop his ideas.
2. Organization. The writer has fluent flowing expression to express the ideas, clearly stated or supported well relationship between paragraph, logical and sequencing.
3. Vocabulary. The writer has a lot of words and idioms to convey intended information, attitudes and feeling. Besides, he can use the appropriate word including prefix and suffix and express the ideas.
4. Language use. The writer can apply the basic agreement between sentences, tenses, numbers, words order or functions, articles, pronouns and preposition.
5. Mechanics. The writer is able to write in appropriate spelling, punctuation, and capitalization.

The ability to write is not only in the form of activities that transfer thoughts into written form, but also must be done in writing that is arranged correctly.

¹¹Holly L. Jacob, *Testing ESL Composition A Practical Approach*, (London: Newbury House Publisher, 1981), p. 30.

2. Left Brain

a. Definition of Left Brain

The left brain is necessary to transform thoughts into comprehensible ideas to present to others. If you need help creating a focus, developing a logic, or articulating ideas in concrete ways, try engaging the left brain with more verbal, language-oriented, and analytical strategies. In left brain mode, logic brings unique perspective and thoughts into a form that your audience can understand. Making the transition from right brain inspirations to left brain verbalizations might take a few attempts, so be patient. The act of writing itself may lead to new connections and ideas. In left brain mode, be prepared to cut, edit, distill, and hone ideas.

According to Gazzaniga, he states that left brain hemisphere is important not only for language skills, but also for body movement. People with apraxia, a disturbance in the ability to control movement, often have damage to the left hemisphere of the brain.¹² So, They lose the ability to make those movements known to them.

The brain serves as the control center for most of the body's functions. It is a highly interconnected and complex organ responsible for how we think, feel, and move. The brain activity underlying any

¹²Robert J. Sternberg, *Psikologi Kognitif Fourth Edition*, (Yogyakarta: Pustaka Belajar, 2008), p. 44.

organized behavior involves an extensive network of nerve cells.¹³ Higher level brain functions, such as attention, memory, and walking are mediated by complex interactive systems that involve many different regions of the brain.

The left hemisphere of the brain is associated with IQ (Intelligence Quotient) of man. IQ includes the ability to mathematic, formulate speech, reading, writing, logic, and analysis. In Indonesia more important a IQ than EQ, because of that Indonesian's children more ego and not have imaginative that large. Left Brain (IQ) associated with awareness of spaces, awareness of something that looks, and mastery of mathematics. IQ is able to work to measure speed, set the new things, store and recall information as well as the objectives of an active role in counting numbers, etc.¹⁴ So, human who the dominance of left brain have the logical that high than human of right brain that use of feeling.

b. Types of Left Brain

The left brain prefers members with proper and through explanations. The left brain is also good to remember the name but it is not good to remember faces. How do think of according to the regular tasks for verbal expression, writing, reading, auditory association, put

¹³Victoria BC, *Teaching Students with Acquired Brain Injury*, (British Columbia: Ministry of Education, 2001), p. 3.

¹⁴AryGinanjaraAgustian, *ESQ Power* (Jakarta: Arga, 2003), p. 60.

the details and facts, and symbolism. If categorized in engineering science thinking, left brain thinking styles referred to as two dimensional style of thinking. Style of thinking like this is needed because the rational and logical.¹⁵ So, The side of the brain used in each activity is not the same for everyone.

c. **Process of Left Brain**

The process of thinking the left hemisphere is very regular, logical, sequential, linear and rational. although based on reality, the left hemisphere is capable of interpreting abstract and symbolic things.¹⁶ Once we know what the definition of the brain is now how the left brain working it in an article, even though we know the writing lies in the left hemisphere, but writing also requires a high imagination and emotion to reveal all the stories there we head to become a post.

With awareness as above it, such as when viewed from the aspect of education, how to learn and how to think need to be more knowledge able in using the two hemispheres of the human brain. For the operationalization of consciousness, the first job is the awareness of basic human potentials which are related to the brain.

¹⁵As'adi Muhammad, *Misteri Otak Tengah Manusia*, (Jogyakarta: Buku Biru, 2010) p. 26-28.

¹⁶Isniatun Munawarah and Haryanto, *Neuroscience Dalam Pembelajaran*, Majalah Ilmiah Pembelajaran Nomor 1 Vol, 1 Mei 2005, retrieved from <https://www.google.com/search?q=+Isniatun+Munawarah+and+Haryanto%2C+Neuroscience+Dalam+Pembelajaran&ie=utf-8&oe=utf-8&client=firefox-b> at February 2018.

These components include the: (1) sensory, (2) ratio, (3) emotional, and (4) intuition. Parts of the brain itself has become “the place” for the course components. Corollary, body movements (kinesthetic), problem solving skills, emotional maturity, and skills and ways of thinking.¹⁷ So, the left hemisphere processes your information in different ways, by tending to process information using the dominant side of the brain. However, the process of learning and thinking is enhanced when both sides of the brain participate equally.

Table 1
Brain and function

THE FUNCTIONS OF BRAIN	
1. Sequential	1. Random
2. Descriptive	2. Associative
3. Detail	3. Gestalt
4. Letter, Symbol	4. Picture
5. Word	5. Color
6. Logic	6. Spontant
7. Rational	7. Intuitive
	8. Emotional
Intelligence Quotient (IQ)	Emotional Quotient (EQ)

Mention of the left brain and the right brain is not just a symbol or above analogy. There are biological facts behind it. Because the left brain and right brain does exist and play a role, just like those analogies.

¹⁷TaufikPasiak, *Revolusi IQ/EQ/SQ*, (Bandung: PT. MizanPustaka, 2002), p. 125-126.

On the face of the human head is cleaved be seen two large chunks called the cerebrum. Because there are two cerebrum and formed a sphere, then each called hemispheres cerebrum.

Ned Herman divides the human brain into 4 regions. This division is, anatomically, referring to the limbic system functions and 2 hemispheres. Functionally, the quadrants were working when receiving and interpreting information and then make a decision. Can be seen in the table below:¹⁸

Table 2
TwoBrain

TOP LEFT (Analytic Thinking)		BOTTOM LEFT (Implementation Thinking)	
Style	Application	Style	Application
1. Logic	1. Logical	1. Organization	1. Control
2. Analysis	2. Analytical	2. Sequential	2. Conservative
3. Factual	3. Mathematics	3. Planning	3. Organizational
4. Measurement	4. Techniques	4. Detailed	4. Administrative
	5. Scientific		

Then can be seen table of third intelligence below:

Table 3
According to Danah Zohar “third intelligence”

ASPEK	IQ	EQ	SQ
Structure	Neural Pathways	Neural network	Oscillations 40 Hz
Thinking	Serial	Associative	Unitive
Thought type	Rational	Emotional	Spiritual

¹⁸ AryGinanjaraGustian, *RahasiaSuksesMembangunKecerdasanEmosidanSpritual (ESQ)*, (Jakarta: Arga, 2001), p. 56.

Adjective	Automatic properties	Flexible	Can be change
Excess/luck	Accurate, precise, trustworthy	Not accurate, flexible	Very accurate
Basic philosophical	Newtonian	Humanism	Philosophy, eastern conscious instinctive
Response	Naluriah	Conditioned	-
Example	Respiratory system, regulate blood pressure, reflexes, etc	Connecting hunger with rice, mother with love, with a comfortable home, etc	The meaning of life, the meaning of brotherhood, the meaning of love, etc
Mechanice	Series Computer	Computer analog	None
Learn processing	Can't learn	Can learn	Can learn
Psychology process	Prapersonal	Personal	Transpersonal

B. Review of Related Findings

There have been many researches done regard to this research problem.

The related findings were:

The first was done by Yusri.¹⁹The conclusion of the research r_{xy} higher than r_{table} or $= 0,922 > 0,403$. It means that there was any significantly correlation between teaching materials and the students' ability in Speaking English of the

¹⁹Yusri, "The Correlation between Teaching Materials and the Students' ability in Speaking English at Grade VII Students at MTS Asy Syukriah Marancar, (Padangsidempuan: FKIP UMTS, 2011)

grade VII students at MTS AsySyukriahMarancar. So, it can be stated that the hypothesis was accepted.

The second was Donald M. Hurwitz in Dominion University.²⁰ The conclusion of the research is students with left brain dominance will have higher cumulative grade point average than students with right-brain dominance, the left brain dominant group had higher mean cumulative grade point average scores than did the right brain dominant group. In addition, the left brain dominant group had a higher maximum cumulative grade point average value than did the right brain dominant group. However, did not prove that the two groups were independent of each other.

The last is Zahra Kordjazi.²¹ The conclusion of the research that the specific aim of this study was to investigate the possible relationship between left and right brain thinking style and test format. It can be seen from the result of the one way ANOVA were carried out on the scores of each test. The results from one way ANOVA revealed that learners' performance differed significantly, there is a significant difference between right and left group in regard to the synonym test as the P value is small and less than 0.05 main effects occurred since the test of homogeneity of variances indicated unequal variances.

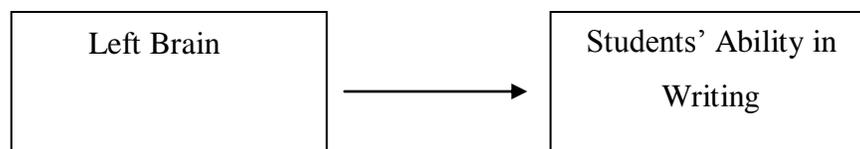
²⁰Donald M. Hurwitz, "A Study to Determine if There Was a Relationship Between the Brain Dominance and Grade Point Averages of Students at Deep Creek High School". (Old Dominion University, 2001)

²¹Zahra Kordjazi, *Brain Dominance and Test Format: A Case of Vocabulary*, (Iran:Ferdowsi University of Mashhad, 2015)

From the explanation above, there was one research showed there was relationship between left brain with students' ability in writing, and two research also showed there was no relationship between left brain dominance with students' ability in writing. So, researcher believed the thus research can complete the previous findings that left brain can relationship the students' ability in writing at grade XI SMA Negeri 2 Padangsidimpuan.

C. Conceptual Framework

Writing is the ability of a person in expressing an idea, feelings, and also the thoughts he has to people or other parties. Writing is also one of the most important things done in school, because writing is very important to train yourself, stringing words and also learn new vocabulary. but not everyone says writing is an easy thing, some even say writing very difficult. Especially, at grade XI SMA Negeri 2 Padangsidimpuan. The problems are the students are lack vocabulary, students are difficult to understand tenses, and students are less motivated. So, the researcher concludes that two variables of this research are left brain as independent variable (X) and students ability in writing as dependent variable (Y).



D. Hypothesis

According to Sugiono “hypothesis is a temporary answer to the formulation of research problems”.²² The hypothesis is needed to show the researcher thinking expectation about outcomes of the research related to this study, the hypothesis of this research is:

1. H_a : There is significant correlation between left brain dominance with students' ability in writing at grade XI of SMA Negeri 2 Padangsidempuan.
2. H_o : There is no significant correlation between left brain dominance with students' ability in writing at grade XI of SMA Negeri 2 Padangsidempuan.

²²Sugiyono, *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D*, (Bandung: Alfabeta, 2012), p. 96.

CHAPTER III

RESEARCH METHODOLOGY

A. The location and Time of the Research

This research has been conducted at SMA Negeri 2 Padangsidimpuan. It is located on Jendral Sudirman Street Padangsidimpuan. It is done from October 2017 up to March 2019. The subject of this research is the eleventh grade of students in SMA Negeri 2 Padangsidimpuan.

B. The Kinds of the Research

The research method is the process undertaken to complete a study, for it was necessary to make measures in order to study systematically realized, planned and followed a scientific concept. In this case the researcher uses a quantitative research with correlation method, where the data collected and done through statistical analysis. It was usually obtained from questionnaire, test, checklist, and other forma; paper and pencil instruments.

As has been noted in the previous chapter, the researcher wanted to describe a correlation between the X and Y variables. X variable is left brain (dependent variable) and Y variable is students' writing ability (Independent Variable).

C. Population and Sample

1. Population

Population is a generalization region consisting of objects or subjects that have certain qualities and characteristics set by the researchers to be studied and then drawn conclusions.¹ So, the population is not just people, but also objects and other objects. population is also not just the amount that is on the object or subject, but includes all the characteristics or properties possessed by the object or subject.

Based on the previous the population is taken from all students at grade XI SMA Negeri 2 Padangsidimpuan. There are students in eleventh grade, it can be presented as follows:

Table 4
The population of Grade XI SMA Negeri 2 Padangsidimpuan

No	Class	Total Students
1	XI MIA 1	34
2	XI MIA 2	34
3	XI MIA 3	36
4	XI MIA 4	34
5	XI IPS 1	34
Total		172

¹Sugiono, *Metode Penelitian Pendidikan Pendekatan Kualitatif, Kuantitatif, dan R&D*, (Bandung: Alfabeta, 2012) p. 117.

2. Sample

The sample is a part of the population who want to study.² Sugiono stated that sample is part of the number and characteristics possessed by that population.³ It means that if the population is large, and the researcher is not possible to study everything in the population, for example due to limited funds, man power and time, the researchers can use samples taken from the population.

In this research, researcher use Simple Random Sampling as the sampling strategies. This research used lottery technique that was by selecting the sample writing each class name slips of paper, and places all the slips in container, they container was shaken and slips selected from the container until the desire number of class was gained. Based on the opinion above, so group of population was class parallel, they were classes. The class which was chosen in class XI MIA 3 that consist of 36 students.

D. The Instruments of Collecting Data

1. Questionnaire

Questionnaire is a data collection technique that is done by giving a set of questions or written statement to the respondent to answer. Questionnaire are efficient data collection techniques when researchers

²Bambang Prasetyo and Lina Miftahul Jannah, *Metode Penelitian Kuantitatif*, (Jakarta: Raja Grafindo Persada, 2007), p. 119.

³Sugiyono, *Metode Penelitian Pendidikan Pendekatan...*, p. 118.

know with certainty the variables to be measured and know what can be expected from the respondents.

The type of questionnaire in this research is scale. The Likert-type scale response was level of frequency, in which the scoring of them is divided into two based on the direction.⁴ The positive direction is called favorable while the negative direction is called unfavorable. both of them had their own score. They were described in the following below:

Table 5
The Classification of Scale Likert

Symbol	Option	Score
SL	Always	5
SR	Often	4
KD	Sometimes	3
JR	Almost Never	2
TP	Never	1

For the next, each questionnaire item is developed from the indicators described below:

In this test, each item has two contrasting statements. Between the two statements is a scale of five points on which you are to indicate your

⁴Wage M. Vagias, *Likert-type scale response anchors*, retrieved from (<http://www.clemson.edu/centers-institutes/tourism/documents/sample-scales.pdf> at January 2018.

perception of which statement best describes you. Boxes 1 and 5 indicate that a statement is very much like you, boxes 2 and 4 indicate that a statement is somewhat more like you than the other statement, box 3 indicates no particular leaning one way or the other.⁵

Table 6
Left Brain Dominance⁶

No	Questionnaire	1	2	3	4	5
1.	I remember faces.					
2.	I respond better to demonstrated, illustrated, symbolic instructions.					
3.	I am intellectual.					
4.	I experiment systematically and with control.					
5.	I prefer solving a problem by looking at the whole, the configurations, then approaching the problem through patterns using hunches.					
6.	I make subjective judgments, intrinsic to person.					
7.	I am planned and structured.					
8.	I prefer elusive, uncertain information.					
9.	I am an analytical reader.					
10.	I rely primarily on images in thinking and remembering.					
11.	I prefer drawing and manipulating objects.					
12.	I can easily concentrate on reading a book in noisy or crowded places.					

⁵H. Douglas Brown, *Teaching By Principles An Interactive Approach to Language Pedagogy*, (Prantice Hall, 1994)., p. 197.

⁶*Ibid.*, p. 197-198

13.	I prefer work and / or studies that are carefully planned.					
14.	I prefer collegial (participative) authority structures.					
15.	I am more free with my feelings.					
16.	I respond best to auditory, visual stimuli.					
17.	I am good at paying attention to people's exact words.					
18.	I rarely use metaphors or analogies.					
19.	I favor intuitive problem solving.					
20.	I prefer open ended questions.					

2. Test

Test is the treatment that used to measure knowledge, intelligence, and ability or skills of someone or groups. The essay test from consisted of one question. The test was a story about writing practice. Writing is a lesson that is handled by developing paragraphs in a time sequence, lessons dealt with paragraph development by time sequence, listing or describing events in the order in which they occurred. The used of sequence expression, such as first, next, afterwards, was also stressed.⁷ It was done to know the students' writing ability.

⁷Wishon, George E. and Julia M. Burks, *Lets Write English Revised Edition* (New York: Mei Ya Taiwan Edition, 1980)., p. 53

Table 7
Indicators of Writing Ability

Variable Y	Indicator	No Item	Score
Writing Ability	Writing practice		
	1. Vocabulary	1	25
	2. Tenses		25
	3. Sequence Expression		25
	4. Topic		25
	Total	1	100

The analysis was based on the scoring rubric suggested by Hyland.

Then the indicator is classified based on criteria of ability as follows:

Table 8
The indicator of Writing Test (Variable Y)⁸

Score	Criteria of Ability
91 – 100	Excellent
81 – 90	Very Good
71 – 80	Good
61 – 70	Average
51 – 60	Fair
41 – 50	Poor

⁸Hyland, *Second Language Writing*, (New York: Cambridge University Press, 2003), p. 243.

Less than 40	Inadequate
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3. Validity and Reliability of the Instrument

Questionnaire was an instrument that needs to be tested to determine the reliability and validity of the questionnaire to be used in this study. The steps were:

a. Test Validity

To know validity each question will be refer to list r product moment with $\alpha = 0,05$. If r account $>^r$ list Question valid.

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

r_{xy} = Effect coefficient of total question

N = Total respondent

X = Element score

Y = Total score

b. Question Reliability

To know reliability each question, so that was refer to list product moment with with $\alpha = 0,05$. If $r_{count} > t_{table}$ so question reliable.

$$r_{11} = \left[\frac{k}{k-1} \right] \left[1 - \frac{\sum s_b^2}{s_t^2} \right]$$

Description:

r_{11} = reliability instrument

K = total score each item

$\sum s_b^2$ = total varians score each item

s_t^2 = varians total⁹

The formula of varians $V_1 = \frac{\sum x^2 - \frac{(\sum x)^2}{N}}{N}$ 11

Then from score r_{count} that was equivalent with r_{table} if $r_{count} > r_{table}$ so the questionnaire was reliability and soon.

E. Techniques of Collecting Data

In collecting data, researcher uses questionnaire and test to students.

Then will be conducting the following technique as follow:

1. Giving questionnaire

The researcher uses questionnaire to collect the data, and give the questionnaires to students, and asks to answer directly. Then the

⁹Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik*, (Jakarta: Rineka Cipta, 2006), p. 235-236.

researcher collects all questionnaires as they have finished to be answered. The questionnaire doing at SMA Negeri 2 Padangsidimpuan at grade XI, where is totally students is students.

- a. The researcher given to students with the several steps they are asking their agreement to participate in this research.
- b. The researcher gives some questions in the questionnaire, and than asked them to fill in the name and fill out the items with their respective criteria.
- c. The researcher gives score for each performance of students.

2. Testing

- a. The researcher given to students a script of short talk.
- b. The researcher given chance or time for students to read it first.
- c. The researcher asked students to prepare themselves to be tested.
- d. The researcher given score for each performance of students.

F. Techniques of the Data Analysis

In this data processing stage of research, the stages can be formulated in the following explanation:

1. Descriptive Statistic Analysis

Descriptive Statistic is a static function to describe or give a picture of the object being investigated through the data sample and the population as it without doing analysis and making conclusions or generalizations apply to

the public.¹⁰ Descriptive statistics are the ways of presenting the data analyzed by the following data:¹¹

a. Mean

The formula used is:

$$M_{(X)} = \frac{\sum FX}{N}$$

Description:

M_x : Mean (Average)

$\sum fX$: The sum of multiplication of each score with a frequency

N : Number of students

b. Median

The formula used is:

$$Me = l + \left(\frac{\frac{1}{2}n - f_{kb}}{f_i} \right) xi$$

Description:

L : lower limit

f_{kb} : Cumulative Frequency

f_i : Original Frequency

¹⁰Sugiyono, *Metode Penelitian.....*,p. 208.

¹¹Anas Sudjono, *Pengantar Statistika Pendidikan*, (Jakarta : PT Raja Grafindo, 2010), p. 85.

c. Modus

The formula used is:

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

Description:

M_o : mode

l : lower limit

f_a : frequency located at the interval that contains the mode

f_b : frequency located below the interval containing mode

i : class interval

In correlation research, the most suitable analysis is using the statistical process. It means that the data were collected and analyzed by using “r” Product Moment formulation. The researcher uses this research to see the correlation between two variables. The correlation between left brain with ability in writing, this hypothesis has one dependent variable and also one independent variable. To determine whether there is a correlation, The correlation between left brain with ability in writing, used the formula of correlation “r” product moment as follows:¹²

¹²*Ibid.*, p, 206.

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

where:

r_{xy} : pearson

N : the number of sample

$\sum X$: the sum of scores in X –distribution

$\sum Y$: the sum of scores in Y –distribution

Based on the test the significant of the variables researcher uses the formula:¹³

Table 9
(Criteria Score Interpretation)

Percentage	Criteria
0,00 - 0,20	Very low correlation
0,20 - 0,40	Low correlation
0,40 - 0,70	Enough correlation
0,70 – 0,90	High correlation
0,90 – 1,00	Very correlation

¹³*Ibid.*,p. 193.

To know the contribution of coefficient correlation between variable X and Y it can be definite the formula determinant correlation:

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

Where :

Kp = determine correlation

r = coefficient correlation¹⁴

To examine the significances variable X and Y was calculated by:

$$T = \frac{r_{xy}\sqrt{n-1}}{\sqrt{1-(r_{xy})^2}}$$

t = result of t-test

n = total of sample

r_{xy} = coefficient correlation between x and y¹⁵

¹⁴Riduan, *Dasar-dasar Statiska*, (Bandung: Alfabeta, 2010), p. 56

¹⁵Riduan, *Belajar Mudah Penelitian untuk Guru, Karyawan dan Peneliti Pemula*, p. 98

CHAPTER IV

RESULT OF THE RESEARCH

In this chapter, the researcher discussed the result of this research about the relationship between left brain dominance with students' ability in writing at grade XI SMA Negeri 2 Padangsidempuan. The researcher used the formula of product moment to analysis the data of students' left brain and students' ability in writing. The research data described as follow:

A. Description of the Data

To understand this research easily, it was described based on variables. There are two variables in this research, they are left brain dominance (X) and students writing ability (Y).

1. Left Brain Dominance

Based on the result of analyzing the answer of the students by using questionnaires, students' left brain dominance got from 20 questionnaires given to the students. For each number, the researcher gives 5 as maximal score for each statement. The description of their score can be seen on the following table:

Table 10

The Result of Students' Left Brain Dominance

No	Initial of Sample	Students' Score	Interpretation
1.	AAS	68	Enough
2.	ASH	72	Good

No	Initial of Sample	Students' Score	Interpretation
3.	AMA	73	Good
4.	AM	76	Good
5.	AIH	76	Good
6.	DMS	77	Good
7.	DYP	76	Good
8.	DD	68	Enough
9.	FA	72	Good
10.	FC	60	Enough
11.	FG	67	Enough
12.	GR	50	Less
13.	IFS	68	Enough
14.	JY	70	Good
15.	LNS	74	Good
16.	MAS	78	Good
17.	ML	74	Good
18.	MDS	73	Good
19.	MAU	81	Very Good
20.	NTP	73	Good
21.	NL	82	Very Good
22.	NT	61	Enough
23.	R	76	Good
24.	RSN	59	Less
25.	RTS	58	Less
26.	RP	65	Enough
27.	RMF	72	Good
28.	RSK	75	Good

No	Initial of Sample	Students' Score	Interpretation
29.	RLE	68	Enough
30.	SR	75	Good
31.	SPA	79	Good
32.	TF	73	Good
33.	TS	67	Enough
34.	TA	58	Less
35.	WZ	67	Enough
36.	YNS	67	Enough
	Total	2528	

Based on the data of the table above it can be concluded that students' left brain dominance from 36 students, there are 4 students who got predicate 'Less', and 11 students who got predicate 'Enough', and 19 students who got predicate "Good" and just two students who got predicate 'Very Good'. For more detail the specification of calculation was described in the table below:

Table 11

The Resume of the Variables Score Left Brain Dominance

No	Statistic	Variable X
1	High Score	82
2	Low Score	50
3	Range	32
4	Mean Score	70.22
5	Median Score	69.96
6	Modus	69.36

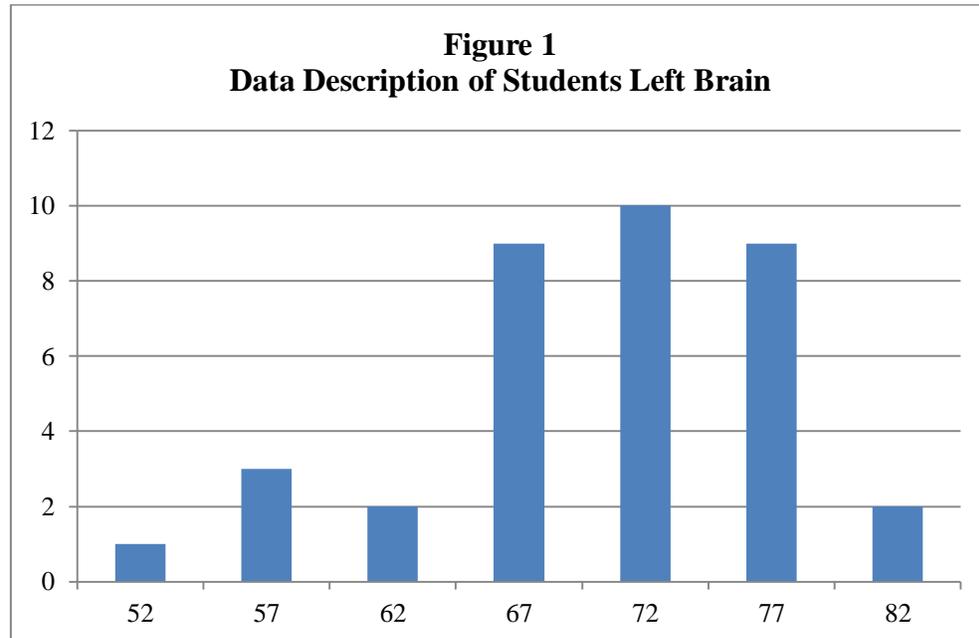
Based on the table above, it is known that mean score was 70.05, it means that the students in left brain dominance got enough predicate, and the median score was 68 and the modus was 65.4. Where mean was the score which represents the general value that was achieved by the students.

Table 12

The Frequency Distribution of Left Brain Dominance

Interval	Mid Point	Frequency	Percentage
50 – 54	52	1	2.77%
55 – 59	57	3	8.33%
60 – 64	62	2	5.55%
65 – 69	67	9	25%
70 – 74	72	10	27.77%
75 – 79	77	9	25%
80 - 84	82	2	5.55%
Total		36	100 %

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



Based on the above table, it was known that the variable revelation of left brain dominance shown that respondent at interval 50 – 54 were 1 students (2,77%), interval 55 - 59 were 3 students (8,33%), interval 60 - 64 were 2 students (5,55%), interval 65 - 69 were 9 students (25%), interval 70 - 74 were 10 students (27.77%), interval 75 – 79 were 9 students (25%), interval 80 – 84 were 2 students (5.55%).

2. Writing Ability

The resume score of variable students' writing ability to the students at eleven grade of SMA Negeri 2 Padangsidimpun had been gotten as table below:

Table 13
The Result of Students' Writing Ability

No	Initial of Sample	Students' Score	Interpretation
1.	AAS	80	Very Good
2.	ASH	65	Enough
3.	AMA	90	Very Good
4.	AM	85	Very Good
5.	AIH	70	Good
6.	DMS	65	Enough
7.	DYP	50	Less
8.	DD	80	Very Good
9.	FA	75	Good
10.	FC	70	Good
11.	FG	70	Good
12.	GR	70	Good
13.	IFS	75	Good
14.	JY	80	Very Good
15.	LNS	70	Good
16.	MAS	50	Less
17.	ML	80	Very Good
18.	MDS	75	Good
19.	MAU	90	Very Good
20.	NTP	60	Enough
21.	NL	75	Good
22.	NT	60	Enough
23.	RY	85	Very Good
24.	RSN	80	Very Good
25.	RTS	80	Very Good

No	Initial of Sample	Students' Score	Interpretation
26.	RP	50	Less
27.	RMF	70	Good
28.	RSK	65	Enough
29.	RLE	80	Very Good
30.	SR	70	Good
31.	SPA	80	Very Good
32.	TFLT	65	Enough
33.	TS	80	Very Good
34.	TA	75	Good
35.	WZ	75	Good
36.	YNS	80	Very Good
	Total	2620	

Based on the data of the table above it can be concluded that students' ability in writing from 36 students, there are 3 students who got predicate 'Less', and 6 students who got predicate 'Enough', and 13 students who got predicate "Good" and 14 students who got predicate 'Very Good'. For more detail the specification of calculation was described in the table below:

Table 14

The Resume of the Variables Score Writing Ability

No	Statistic	Variable Y
1	High Score	90
2	Low Score	50
3	Range	40
4	Mean Score	71.80
5	Median Score	75.87
6	Modus	75.15

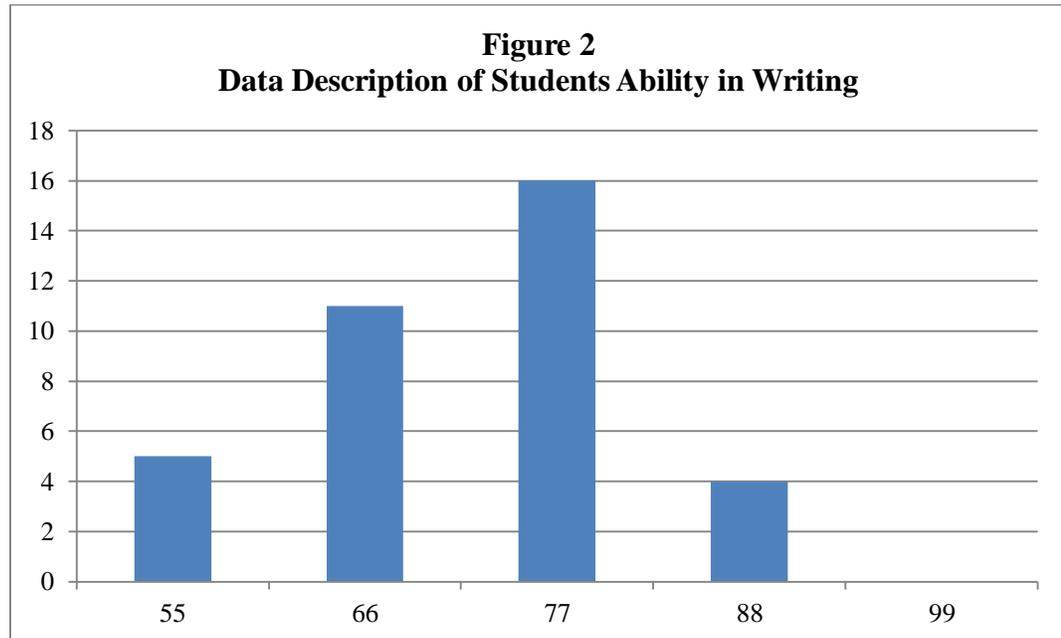
Based on the table above, it is known that mean score was 71.80, it means that the students in left brain dominance got less predicate, and the median score was 75.87 and the modus was 75.15. Where mean was the score which represents the general value that was achieved by the students. Then, the computed of the frequency distribution of the students score of group can be applied in the table frequency distribution as follows:

Table 15

The Frequency Distribution of Students ability in Writing

Interval	Mid Point	Frequency	Percentage
50 – 60	55	5	13.88%
61 – 71	66	11	30.55%
72 – 82	77	16	44.44%
83 – 93	88	4	11.11%
94 – 104	99	0	0%
Total		36	100 %

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



Based on the above table, it was known that the variable revelation of students' ability in writing shown that respondent at interval 50 – 60 were 5 students (13.88%), interval 61 - 71 were 11 students (30.55%), interval 72 - 82 were 16 students (44.44%), interval 83 – 93 were 4 students (11.11%), interval 94 - 104 were 0 students (0%).

B. Testing Hypothesis

Hypothesis testing aims to determine the relationship between left brain dominance with students' ability in writing at grade XI SMA Negeri 2 Padangsidimpuan by using t_{test} . Before testing the hypothesis, first performed the calculation of the scores obtained by the respondents as the below:

$$\begin{aligned}
\Sigma X &= 2528 \\
\Sigma Y &= 2620 \\
\Sigma X^2 &= 179.320 \\
\Sigma Y^2 &= 194.300 \\
\Sigma XY &= 183.995
\end{aligned}$$

By using the values above then, researcher calculated the value of relationship between variable X and Y by used product moment as below:

$$\begin{aligned}
r_{xy} &= \frac{n \Sigma xy - (\Sigma x)(\Sigma y)}{\sqrt{n\{\Sigma x^2 - (\Sigma x)^2\}\{n \Sigma y^2 - (\Sigma y)^2\}}} \\
&= \frac{36 (183.995) - (2528)(2620)}{\sqrt{\{36 x 179.320 - (2528)^2\}\{36 x 194300 - (2620)^2\}}} \\
&= \frac{6623820 - 6623360}{\sqrt{\{6455520 - 6390784\}\{6994800 - 6864400\}}} \\
&= \frac{460}{\sqrt{(64736)(130400)}} \\
&= \frac{460}{\sqrt{8441574400}} \\
&= \frac{460}{91878.040} \\
&= 0.005
\end{aligned}$$

Based on the data above, it is shown the relationship between left brain dominance with students ability in writing is very low relationship.

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

KP = The score of determine coefficient

R = The scores of the coefficients relationship

$$\begin{aligned} KP &= r^2 \times 100 \% \\ &= (0.005)^2 \times 100 \% \\ &= 0.0025 \times 100 \% \\ &= 0.25 \% \end{aligned}$$

Based on calculating above determine contribution left brain dominance with students ability in writing was 0.25%, it means the contribution of the relationship just only 0.25% and 99.75% from other aspects.

To test hypothesis for the significant relationship, researcher used the formulate t_{count} the calculation as below:

$$\begin{aligned} T \text{ count} &= \frac{r\sqrt{n-2}}{\sqrt{1-r^2}} = \frac{0.005 \sqrt{36-2}}{\sqrt{1-(0.005^2)}} \\ &= \frac{0.005 \sqrt{34}}{\sqrt{1-0.0025}} \\ &= \frac{0.005(5,830)}{\sqrt{0.9975}} \\ &= \frac{0.29}{0.998} \\ &= 0,290 \end{aligned}$$

Based on the calculation above, the researcher found that $t_{\text{count}} = 0.290$ and $dk = N-2 = 36-2 = 34$, and at real $\alpha = 0.05$, the researcher found that $t_{\text{table}} = 1.697$ cause $t_{\text{count}} < t_{\text{table}}$, namely $t_{\text{count}} = 0.290$ and $t_{\text{table}} = 1.697$. It means that there was no significance relationship between two variables that it was categorized to be “rejected” or could be said that there was a significant or the contribution of variable X to variable Y. So, H_a is rejected and H_0 is accepted, it means that there was a significant relationship between left brain dominance with students ability in writing.

C. The Discussion of the Result

Based on the data analysis above, it has proven that left brain dominance gave very low relationship for writing ability. Left brain is one of the most important organs in the body that plays a role in controlling the entire center of the nervous system and the structure of nerve cells. The left brain has a duty to regulate some of the actions performed by the body and regulate the functions of various organs.

Next, Shahrzad Salehi and Firouz Kazemi journal¹, the regression analysis demonstrates a positive relationship between Brain Dominance and

¹Shahrzad Salehi and Firouz Kazemi, *Brain Dominance and Gender Differences in Writing Performance of Iranian EFL Learners*, volume 4, Issue 3, 2017, pp. 94-104, retrieved from www.jallr.com/index.php/JALLR/article/view/567 at December 2018.

Gender Differences in Writing Performance. The result show that the brain dominance has more strength in argumentative writing tasks which demand higher levels of cognition, and that girls language learners are doing better more successful in writing. Unfortunately, the strategies did not give big contribution to students' ability in writing on this research. So, the researcher could not prove what have been stated by Shahrzad Salehi and Firouz Kazemi. So, it is very suitable conduct research to determine if the context can be considered as a factor that influences the ability of students.

Furthermore, what has been finding by the researcher that based on the calculation of $r_{xy} =$ that indicated that relationship between students' left brain dominance and students' ability in writing is very low. Then, based on the calculation of $t_{count} =$ and $dk = N-2 = 36-2 = 34$, and at real $\alpha = 0,05$, the researcher found that $t_{table} = 1.697$ cause $t_{count} < t_{table}$, namely $t_{count} = 0.290$ and $t_{table} = 1.697$. It means that there was not significant relationship between left brain dominance with students' ability in writing at grade XI SMA Negeri 2 Padangsidempuan. So, $H_a =$ is rejected and H_0 is accepted.

Based on the explanation above, it indicated that the result of our research is different. it may be caused sample was different. It means, students in SMA Negeri 2 Padangsidempuan has different problems with students in Iranian University. That thing perhaps that made our result became different or caused

by other factor. The focuses are also for the situation in taking the data. When the researcher took the data, the students looked tired and uninterested because it was done at the noon. There are the problems make this research is not related the another findings above.

D. The Threat of the Research

There some weakness of this research, they are:

1. The researcher gave the questionnaire and test to sample and explains them about the instruction.
2. The researcher does not know how serious and concentrate the students when they were answering the questionnaire and test.
3. The researcher does not saw the measuring honest aspects of the students in answering the questionnaire and test until possibility the students cheat or guess.

CHAPTER V

CONCLUSION AND SUGGESTIONS

A. Conclusion

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

1. The students' left brain dominance at grade XI of SMA Negeri 2 Padangsidimpuan was "Good" by getting mean score was 70.22
2. The students' ability in writing at grade XI of SMA Negeri 2 Padangsidimpuan was "Good" by getting mean score were 72.77
3. The result of calculating data, there was a significant relationship between left brain dominance with students' ability in writing at grade XI SMA Negeri 2 Padangsidimpuan. The result of this research is $r_{xy} = 0.005$. Then, based on the calculating of t_{count} , the researcher got $t_{count} = 0.290$ and $t_{table} = 1.697$. The comparison the both of values is $t_{count} < t_{table}$ ($0.290 < 1.697$). So, H_a is rejected and H_o is accepted. It means, it can be concluded that there is significant correlation between left brain dominance with students' ability in writing at grade XI SMA Negeri 2 Padangsidimpuan.

B. Suggestion

There are some suggestion below, that made researcher for the English teacher, students and for the next researcher as follows:

1. The English Teacher
 - a. The English teacher should choose the good method in teaching and learning process to improve students' English mastery.
 - b. The English teacher must be creative, innovative, and communicative when teaching English.
2. Students
 - a. Increase your interest in English, because by using English students can improve their knowledge because many information uses English to share to the other people.
 - b. Ask to your English Teacher when you have difficulties in comprehending English.
3. Next, researcher suggest to another researcher (s) to complete this research by conducting any other research which related with left brain (s).

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CURRICULUM VITAE



A. Identify

Name : Nurlanni Khoiriah
Reg. No : 14 203 00103
Place/Birth : Padangsidempuan/September, 30th 1996
Sex : Female
Religion : Islam
Address : Jl. Jendral Sudirman Kmp. Salak

B. Parents

Father's Name : Khairuddin Koto
Mother's Name : Rendana Lubis

C. Educational Bckgrund

1. Elementary School : SD Negeri 200109/14 Padangsidempuan (2008)
2. Junior High School : SMP Negeri 3 Padangsidempuan (2011)
3. Senior High School : SMA Negeri 2 Padangsidempuan (2014)
4. University : IAIN Padangsidempuan (2019)

APPENDIX I

ANGKET TENTANG HUBUNGAN DOMINASI OTAK KIRI DENGAN KEMAMPUAN SISWA DALAM MENULIS

Nama :

Kelas/Semester :

Hari/Tanggal :

A. Pengantar

1. Angket ini diberikan kepada siswa hanya untuk mendapatkan informasi dari siswa sesuai dengan penelitian tentang “**Relationship Between Left Brain Dominance with Students ability in Writing at Grade XI SMA Negeri 2 Padangsidempuan**”.
2. Informasi yang diperoleh dari anda sangat berguna bagi si peneliti untuk menganalisis tentang hubungan otak kiri dengan kemampuan siswa dalam menulis.
3. Partisipasi anda memberikan informasi yang sangat kami harapkan.
4. Jawaban anda tidak mempengaruhi nilai Bahasa Inggris anda, jawablah dengan jujur sesuai dengan keadaan anda.

B. Petunjuk Pengisian

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

- (5) SS (Sering Sekali)
- (4) S (Sering)
- (3) KD (Kadang-kadang)
- (2) JR (Jarang)
- (1) TP (Tidak Pernah)

Left Brain Dominance Test¹

No	Questionnaire	1	2	3	4	5
1.	I remember faces.					
2.	I respond better to demonstrated, illustrated, symbolic instructions.					
3.	I am intellectual.					
4.	I experiment systematically and with control.					
5.	I prefer solving a problem by looking at the whole, the configurations, then approaching the problem through patterns using hunches.					
6.	I make subjective judgments, intrinsic to person.					
7.	I am planned and structured.					
8.	I prefer elusive, uncertain information.					
9.	I am an analytical reader.					
10.	I rely primarily on images in thinking and remembering.					
11.	I prefer drawing and manipulating objects.					
12.	I can easily concentrate on reading a book in noisy or crowded places.					

¹H. Douglas Brown, *Teaching By Principles An Interactive Approach to Language Pedagogy*, (Prantice Hall, 1994)., p. 197.

13.	I prefer work and / or studies that are carefully planned.					
14.	I prefer collegial (participative) authority structures.					
15.	I am more free with my feelings.					
16.	I respond best to auditory, visual stimuli.					
17.	I am good at paying attention to people's exact words.					
18.	I rarely use metaphors or analogies.					
19.	I favor intuitive problem solving.					
20.	I prefer open ended questions.					

APPENDIX II

Name :

Class :

Directions :

Write an paragraph in the column below. Your text must have at least 100 words.
Time limit is 45 minute. Your paragraph will be scored based on content, organization, vocabulary, language use and mechanism.

Padangsidempuan,

2018

Validator

Zainuddin, S.S., M. Hum

NIP. 19760610 200801 1 016

APPENDIX III

QUESTIONNAIRE RESULT OF LEFT BRAIN DOMINANCE

No	Initial	Number of Questionnaire																				Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1.	AAS	4	3	4	1	2	4	5	3	4	2	2	4	5	2	5	3	5	4	2	4	68
2.	ASH	4	5	4	4	3	3	4	1	4	4	3	3	4	3	4	3	4	3	4	5	72
3.	AMA	4	3	4	4	5	3	4	2	5	4	4	2	4	3	4	4	5	3	3	3	73
4.	AM	4	4	4	4	3	4	4	4	4	4	3	5	4	3	3	4	4	3	4	4	76
5.	AIH	5	4	4	3	5	4	4	2	1	5	5	1	4	4	5	4	5	4	3	4	76
6.	DMS	5	3	4	4	4	3	4	3	4	5	5	1	4	4	5	4	4	3	4	4	77
7.	DYP	4	3	5	3	4	5	4	4	4	3	5	2	4	4	5	4	3	3	4	3	76
8.	DD	5	4	4	3	2	3	3	3	2	4	4	2	4	4	4	4	4	3	3	3	68
9.	FA	5	3	4	4	5	4	4	3	2	2	3	2	3	4	5	5	4	3	3	4	72
10.	FC	2	3	1	4	3	3	3	2	1	3	1	1	5	4	4	4	4	4	3	5	60
11.	FG	4	3	4	3	3	3	4	5	3	3	3	1	4	3	4	3	5	2	3	4	67
12.	GR	2	3	2	3	4	4	3	2	3	4	4	4	3	3	2	4	3	3	2	4	50
13.	IFS	5	4	3	3	4	3	5	1	2	4	2	1	4	3	5	4	4	3	3	5	68
14.	JY	5	4	4	3	2	3	4	1	4	5	3	3	4	4	4	4	3	3	3	4	70

15.	LNS	5	3	3	4	5	3	4	2	3	5	4	2	4	3	5	4	3	4	3	5	74
16.	MAS	5	3	4	4	4	4	4	3	3	5	2	2	5	3	5	4	5	4	4	5	78
17.	ML	4	4	5	3	2	4	2	4	5	5	4	3	3	4	5	3	3	3	3	5	74
18.	MDS	4	4	4	4	4	3	4	3	5	3	3	2	4	4	4	3	4	4	3	4	73
19.	MAU	4	4	5	4	5	3	5	3	3	3	4	5	5	4	5	3	4	3	4	5	81
20.	NTP	5	3	3	3	3	4	3	3	3	4	3	4	4	5	4	4	5	3	3	4	73
21.	NL	4	4	5	4	5	3	5	3	3	5	5	3	5	4	5	3	4	3	4	5	82
22.	NT	4	3	4	3	1	3	2	3	3	4	3	2	3	4	3	3	3	3	3	4	61
23.	R	4	4	4	3	5	3	4	3	5	5	5	1	3	4	4	4	4	2	2	5	76
24.	RSN	4	2	2	2	4	3	3	2	3	4	3	1	3	3	4	2	4	2	3	5	59
25.	RTS	3	4	2	3	3	3	4	1	2	3	4	1	4	3	3	3	4	2	4	2	58
26.	RP	3	2	2	5	4	3	4	2	2	4	2	2	3	3	4	4	5	3	3	5	65
27.	RMF	5	3	3	2	4	3	3	4	4	3	2	5	4	3	5	4	4	3	4	4	72
28.	RSK	4	3	4	5	4	5	5	1	3	4	4	1	5	4	4	4	4	3	3	5	75
29.	RLE	5	3	4	5	5	4	2	1	3	4	3	1	4	4	4	4	3	2	3	4	68
30.	SR	4	3	4	4	4	4	5	2	4	4	3	2	4	4	4	4	3	4	4	5	75
31.	SPA	5	3	4	4	5	4	5	3	3	5	4	3	3	3	5	5	4	3	3	5	79
32.	TF	3	4	3	3	4	4	3	4	3	4	4	5	4	4	3	4	4	3	4	3	73
33.	TS	5	3	4	3	2	3	4	2	3	4	3	2	4	3	5	4	5	2	3	3	67

34.	TA	4	3	3	3	2	3	3	3	2	4	3	2	3	2	3	4	3	2	3	3	58
35.	WZ	5	3	4	4	3	3	4	3	4	4	2	1	4	3	4	3	3	3	3	4	67
36.	YNS	4	3	4	4	3	3	3	1	4	4	1	3	4	3	4	3	4	3	4	5	67

APPENDIX IV

The Score of Left Brain Dominance

No	Initial of Sample	Students' Score
1.	AAS	68
2.	ASH	72
3.	AMA	73
4.	AM	76
5.	AIH	76
6.	DMS	77
7.	DYP	76
8.	DD	68
9.	FA	72
10.	FC	60
11.	FG	67
12.	GR	50
13.	IFS	68
14.	JY	70
15.	LNS	74
16.	MAS	78
17.	ML	74
18.	MDS	73
19.	MAU	81
20.	NTP	73
21.	NL	82
22.	NT	61
23.	R	76
24.	RSN	59

25.	RTS	58
26.	RP	65
27.	RMF	72
28.	RSK	75
29.	RLE	68
30.	SR	75
31.	SPA	79
32.	TF	73
33.	TS	67
34.	TA	58
35.	WZ	67
36.	YNS	67
Total		2528

APPENDIX V

The result of Student's Writing Ability

No	Initial of Sample	Students' Score
1.	AAS	80
2.	ASH	65
3.	AMA	90
4.	AM	85
5.	AIH	70
6.	DMS	65
7.	DYP	50
8.	DD	80
9.	FA	75
10.	FC	70
11.	FG	70
12.	GR	70
13.	IFS	75
14.	JY	80
15.	LNS	70
16.	MAS	50
17.	ML	80
18.	MDS	75
19.	MAU	90
20.	NTP	60
21.	NL	75
22.	NT	60
23.	RY	85
24.	RSN	80

25.	RTS	80
26.	RP	50
27.	RMF	70
28.	RSK	65
29.	RLE	80
30.	SR	70
31.	SPA	80
32.	TFLT	65
33.	TS	80
34.	TA	75
35.	WZ	75
36.	YNS	80
Total		2620

APPENDIX VI

The Result of Variable X and Y

No	Initial of Sample	Students' Score	Students' Score
1.	AAS	68	80
2.	ASH	72	65
3.	AMA	73	90
4.	AM	76	85
5.	AIH	76	70
6.	DMS	77	65
7.	DYP	76	50
8.	DD	68	80
9.	FA	72	75
10.	FC	60	70
11.	FG	67	70
12.	GR	50	70
13.	IFS	68	75
14.	JY	70	80
15.	LNS	74	70
16.	MAS	78	50
17.	ML	74	80
18.	MDS	73	75
19.	MAU	81	90
20.	NTP	73	60
21.	NL	82	75
22.	NT	61	60
23.	R	76	85
24.	RSN	59	80

25.	RTS	58	80
26.	RP	65	50
27.	RMF	72	70
28.	RSK	75	65
29.	RLE	68	80
30.	SR	75	70
31.	SPA	79	80
32.	TF	73	65
33.	TS	67	80
34.	TA	58	75
35.	WZ	67	75
36.	YNS	67	80
Total		2528	2620

APPENDIX VII

Relationship between Left Brain Dominance with Students' Ability in Writing

No	Initial	X	Y	X ²	Y ²	XY
1.	AAS	68	80	4624	6400	5440
2.	ASH	72	65	5184	4225	4680
3.	AMA	73	90	5329	8100	6570
4.	AM	76	85	5776	7225	6460
5.	AIH	76	70	5776	4900	5320
6.	DMS	77	65	5929	4225	5005
7.	DYP	76	50	5776	2500	3800
8.	DD	68	80	4624	6400	5440
9.	FA	72	75	5184	5625	5400
10.	FC	60	70	3600	4900	4200
11.	FG	67	70	4489	4900	4690
12.	GR	50	70	2500	4900	3500
13.	IFS	68	75	4624	5625	5100
14.	JY	70	80	4900	6400	5600
15.	LNS	74	70	5476	4900	5180
16.	MAS	78	50	6084	2500	3900
17.	ML	74	80	5476	6400	5920
18.	MDS	73	75	5329	5625	5475
19.	MAU	81	90	6561	8100	7290
20.	NTP	73	60	5329	3600	4380
21.	NL	82	75	6724	5625	6150
22.	NT	61	60	3721	3600	3660
23.	R	76	85	5776	7225	6460
24.	RSN	59	80	3481	6400	4720

25.	RTS	58	80	3364	6400	4640
26.	RP	65	50	4225	2500	3250
27.	RMF	72	70	5184	4900	5040
28.	RSK	75	65	5625	4225	4875
29.	RLE	68	80	4624	6400	5440
30.	SR	75	70	5625	4900	5250
31.	SPA	79	80	6241	6400	6320
32.	TF	73	65	5329	4225	4745
33.	TS	67	80	4489	6400	5360
34.	TA	58	75	3364	5625	4350
35.	WZ	67	75	4489	5625	5025
36.	YNS	67	80	4489	6400	5360
Total		2528	2620	179.320	194.300	183.995

APPENDIX VIII

VARIABLE X

(Left Brain Dominance)

1. Maximal and Minimal score gotten by setting the variable score from low score or high score.

50	58	58	59	60	61	65	67	67
67	67	68	68	68	68	70	72	72
72	73	73	73	73	74	74	75	75
76	76	76	76	77	78	79	81	82

2. High score = 82

3. Low score = 50

4. Range

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

$$= 82 - 50 = 32$$

5. The total of class (BK) $= 1 + 3.3 \log n$
 $= 1 + 3.3 \log 36$
 $= 1 + 3.3 (1.55)$
 $= 1 + 5.115$
 $= 6.115$
 $= 6$

6. Interval (i)

$$I = \frac{\text{Range}}{\text{Many Class}} = \frac{32}{5} = 8$$

No	Class Interval	F	X	FX	F _{kb}	F _{ka}
1	50 - 54	1	52	52	N=36	1
2	55 - 59	3	57	171	35	4
3	60 - 64	2	62	124	32	6
4	65 - 69	10	67	670	30	15
5	70 - 74	9	72	648	21	25
6	75 - 79	9	77	693	11	34
7	80 - 84	2	82	164	2	N=36
	Total	36		2522		

7. Mean Score

$$\begin{aligned}
 X &= \frac{\sum FX}{F} \\
 &= \frac{2522}{36} \\
 &= 70.05
 \end{aligned}$$

8. Median Score

$$\begin{aligned}
 \text{Me} &= l + \left(\frac{\frac{1}{2}n - f_{kb}}{f_i} \right) x_i \\
 l &= 64.5 & i &= 5 \\
 f_i &= 10 & F_{kb} &= 11 \\
 \frac{1}{2}n &= 18 \\
 \text{Me} &= l + \left(\frac{\frac{1}{2}n - f_{kb}}{f_i} \right) x_i \\
 &= 64.5 + \left(\frac{18 - 11}{10} \right) x 5 \\
 &= 64.5 + \left(\frac{7}{10} \right) x 5 \\
 &= 64.5 + (3.5) \\
 &= 68
 \end{aligned}$$

9. Modus

$$\text{Mo} = l + \left(\frac{fa}{fa+fb} \right) xi$$

$$l = 64.5$$

$$fa = 2$$

$$i = 5$$

$$fb = 9$$

$$\text{Mo} = l + \left(\frac{fa}{fa+fb} \right) xi$$

$$= 64.5 + \left(\frac{2}{2+9} \right) x 5$$

$$= 64.5 + 0.9$$

$$= 65.4$$

RESEARCH DOCUMENTATIONS







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52 /In.14/E.6a/PP.00.9/ 09 /2017

Padangsidimpuan, 20 September 2017

: Biasa

: Pengesahan Judul dan Pembimbing Skripsi

Kepada Yth Bapak/Ibu;

1. Eka Susri Harida, M. Pd (Pembimbing I)
2. Zainuddin, S.S., M. Hum (Pembimbing II)

Di-
Padangsidimpuan

Assalamu 'alaikum Wr. Wb

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

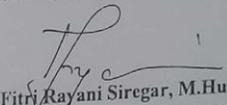
Nama : Nurlanni Khoiriah
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Judul Skripsi : RELATIONSHIP BETWEEN LEFT BRAIN DOMINANCE TEST WITH STUDENTS ABILITY IN WRITING AT GRADE XI SMA NEGERI 2 PADANGSIDIMPUAN

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

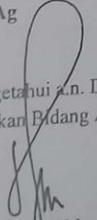
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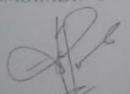
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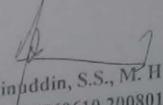

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18 Desember 2018

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adalah Mahasiswa Fakultas Tarbiyah dan Ilmu Keguruan IAIN Padangsidempuan yang sedang menyelesaikan Skripsi dengan Judul "Relationship Between Left Brain Dominance Test With Students' Ability in Writing at Grade XI SMA N 2 Padangsidempuan".

Sehubungan dengan itu, kami mohon bantuan Bapak/Ibu untuk memberikan izin penelitian sesuai dengan maksud judul diatas.

Demikian disampaikan, atas kerja sama yang baik diucapkan terimakasih.

Padangsidempuan, Desember 2018
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Padangsidempuan, 05 Juli 2019
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na tersebut di atas benar telah melaksanakan penelitian pada tanggal 08 Januari 2019 di SMA
2 Padangsidimpuan sesuai dengan surat nomor : B-2287/In.14/E.1/TL.00/12/2018 tertanggal 18
ember 2018 , dengan judul Skripsinya : “ Relationship Between Left Brain Dominance Test
h Students’ Ability in Writing at Grade XI SMA Negeri 2 Padangsidimpuan “.
nkianlah surat keterangan ini diperbuat untuk dapat di pergunakan sebagai mana mestinya.

Padangsidimpuan , 11 Januari 2019
Kepala Sekolah



Manaor Baharuddin Tampubolon, S.Pd
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