

LAPORAN HASIL

Penelitian Individual Dosen

**THE CORRELATION BETWEEN LEFT AND RIGHT
BRAIN TO STUDENTS' WRITING ABILITY
AT GRADE X MADRASAH ALIYAH
DARUL IKHLAS H.ABD. MANAP SIREGAR
BOARDING SCHOOL GOTI, PADANGSIDIMPUAN**



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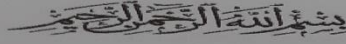
ABSTRACT

This thesis is talking about The Correlation Between Left and Right Brain to Students' Writing Ability at Grade X in Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padangsidempuan. Most of students lack in writing. Many students feel that writing is difficult. First, writing happen in real time. Second, writing cannot be without think about vocab and the tenses. Furthermore, this is caused students are afraid to do mistakes, feel tremble, tight, and worry in writing, have high is not known, do not practice it every day, and do not have seldom the writing in a paper.

The objective of this research is the Correlation Between Left and Right Brain to Students' Writing Ability at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padangsidempuan. To solve the problem the researcher conducted by quantitative method. The population of this research was 236 students of the grade X. Then, the sample of research intended 27 students. Next, the validity and reliability test were given to the respondent. To analysis the data, the writer used formulation of Jaspren's which aims to test the hypothesis.

The result of the calculation was compared and with the value of table on the degree of freedom $RT = N-2$, it shows that $27-2 = 25$. It will be compared with nearest value on the table in $\alpha: 0.05$ significant. This phenomenon shows that the value of $(r_0) = 0.756$ was higher than the value $r_{table} 0.396$ means that $(r_0) = 0.756 > 0.396 = (r_{tabel})$. After having analyzed and calculation the data, it found that the hypothesis of this research was accepted, means that "there was significant correlation between left and right brain to students' writing ability at grade X SMA Negeri 2 Padangsidempuan.

ACKNOWLEDGEMENT



First, the researcher would like to convey grateful to Allah, The Most Creator and Merciful who has given us the health, time and chance for finishing this research. The research entitles "The Correlation between Left and Right Brain to Students' Writing Ability at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padangsidempuan". This research is written in order to fulfill one of the requirements for individual research in IAIN Padangsidempuan.

In finishing this research, the researcher is guided by advisor. Therefore, in this opportunity the researcher would like to express gratitude to advisor. This research is still so far from being perfect based on the weakness of the researcher. Therefore, the researcher expected constructive criticisms and suggestions from the readers in order to improve this research.

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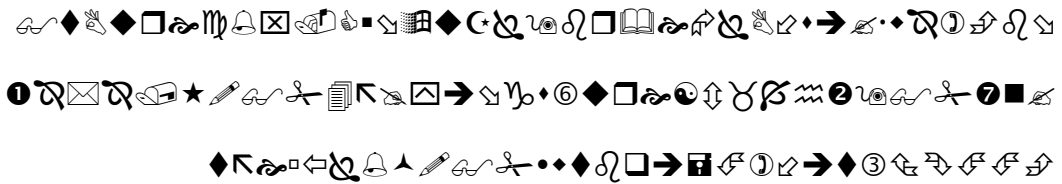
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CHAPTER I

INTRODUCTION

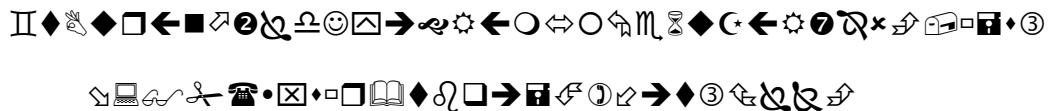
A. The Background of the Problem

Humans are creature of Allah that most perfect is equivalent with other creature. Humans have more than that is given mind and thinking for maximize of function from mind and thinking there humans need knowledge. The knowledge motivates to understand how become humans that the whole. Humans that can use mind of thinking and can balancing life of the world and life of the hereafter. Humans are not used mind of thinking can be misfortune of the life. Can be seen in Q. S Yunus as this below:



The meaning: “No soul can believe, except by the will of Allah, and Allah will place doubt (obscurity) on those who will not understand”. (Yunus: 100)¹

In other verse also is distinct that the important maximizing of function from mind of thinking that is used in Q. S Yasiin the follow:



The meaning: “if we grant long life to any, we cause him to be reversed in nature: will they not then understand?” (Yasin: 68).²

¹Abdullah Yusuf Ali, *The Holy Qur'an*, (Kuala Lumpur: Saba Islamic Media, 1998), p. 258.

The brain is organ of humans' body that God placed a respectable position in upper part of humans' body and firmly protected inside the cranium (skull) head. The position of brain is a symbol that shows that peoples are more precious to God other creatures, such as location and position of the animals brain level with the humiliation and body store and secret feces (stomach and rectum or plants that do not have a brain and do not know where to position brain if any).

In language of Indonesia is resourceful means intellect, mind and memory, whereas in Arabic intellect (Aql) means a mind, heart, memory, power of thought, ideology, diyat, fortress or shelter. In this sense perhaps proper English if translated word cognition (knowing; awareness; Including sensation but excluding emotion). And our brain must be developed to the imagination.

Spiritual power that one has to distinguish the good with the bad and keep madharat benefit as well. The reason has 2 characters. Firstly, a distinctive sense of something good the poor; This also distinguishes between humans and animals. Secondly, a sense of identity with the highest compared to other creatures.

The humans' brain, like machine, it will not work at highest efficiency when gas is less, filled with soot, or even if there is a simple but essential tool missing.³ So if our students feel full, received sufficient attention from family,

²Abdullah Yusuf Ali, *The Holy Qur'an*. 540.

³Louanne Johnson, *Pengajaran Yang Kreatif dan Menarik* (Jakarta: Pt Macanan Jaya Cemerlang, 2009), p. 199.

emotional control and well educated, most likely we will not experience serious difficulties. We have to give continuous motivation. But if students are feeling tired, not getting enough attention from my family, suffering from emotional stress, not well educated it is a challenge for us, so we have to be patient and keep motivated to become a good boy.

From the brief description above, it can be concluded that the reason is the means to understand what one object that is not possessed by other creatures. In writing, brain is very important to know how we can know about definition of left and right brain to writing ability. Students can the application it to writing ability. Students can to know about them skill.

First, writing is the primary basis upon which your work, your learning, and your intellect will be judged in college, in the workplace, and in the social community. Second, writing activities our left and right brain for thinking and problem solving. In the process of writing, our left and right brain is activated to remember vocabulary, and structure in grammar. Finally, we can learn thought through writing. Written texts are representation of the author's thought, so that writing is a way to understand the depth and the way of thinking of ourselves by writing our own brains.

Based on the illustration above, it is undeniably that writing is necessary for everybody in variety of purposes and needs. However, writing skill is problematic at at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padangsidempuan either in the aspect of

ability or left and right brain. The actual fact is revealed in the following illustration.

Student's writing ability is low. Come from PKS kesiswaan at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padagsidimpuan Mrs. Yus when the researcher was doing the observation as observer in PPL programme there. Based on Minimal of Complete Criteria (KKM) every subject, passing grade of senior high school is 78 for English subjects special of Quality class and 75 for regular class. However, the data found in at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padagsidimpuan reveals the average of student's writing ability still lack of standar score in grade X. In brief, students' writing ability does not fulfill the expectation. In addition, it was also found that students have lack the vocabulary, grammatical writing problems: recognize and fix grammatical errors.

Accordingly, the problems above need to be solved in order to avoid flaws in students as product of education. There are some strategies that can enhance students ability in writing such as vocabulary which it is very important to written. Brainstorming is students list all they can think of related to a topic, either in writing or aloud, quickly and without much planning. Word mapping is a more visual form of brainstorming. When students create word maps, they begin with idea at the top or center of a blank piece of paper. Quick writing is where students begin with a topic, but then write rapidly about it. These strategies theoretically judged to be good to apply in writing ability.

From the three alternative strategies above, the writer can connect the third strategies. Because, students must know vocabulary for they write, then they can to make to sentences pattern, and then they develop into paragraph. Below the writer reveals the reason.

First, it was found that student's materials can to write daily activities sentences. Second, the age level of students is "in between" which close to maturation. Humans in this age is theoretically able to acquire short story or developing a topic and so on. The last, correlation with left and right brain purpose to vocabulary, sentences pattern, and paragraph developing is simple and objective to know how speed and systematically a written in writing.

In view of above discussion, the researcher is interested in conducting an correlation research of which purpose to know the correlation between left and right brain to student's writing ability at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padagsidimpuan. This research will connect left and right brain in speed and systematically a written to student's writing ability by make brainstorming, word mapping, and quick writing the conventional way of teachers in teaching writing skill.

B. The Identification of the Problem

Based on the background above, problems concerning writing skills at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padagsidimpuan are:

1. Students low ability in writing which can be due to the inappropriate writing strategy.

2. Their lack vocabulary when they will write a paragraph.
3. They lack understand to grammar.

C. The Limitation of the Problem

The coverage of the variables stated above is so large in the matter of materials, space and time that is difficult to correlate alone. Due to the limitation of the writer in the aspect of ability, time and finance, this research must be limited. Thus, this study is to investigate the correlation between brainstorming, word mapping and quick writing on writing ability of developing of topic, at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padangsidempuan. Other subjects left and related to this study can be the domain of the future researchers.

D. The Formulation of the Problem

From the identification of the problem, so the formulation needed to explain the aim of research. Furthermore, the formulation of problem is: “Is there significant correlation between left and right brain to students’ writing ability at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padangsidempuan”.

E. The Objectives of the Research

The objectives are relevant to the formulation of the problem is: “To know whether there is the correlation between left and right brain to students’ writing ability at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padangsidempuan”.

F. The Use of the Research

The result of research is expected to be useful for:

1. As information for Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padangsidempuan about the correlation between left and right brain to student's writing ability.
2. As information for the teacher, especially for English teacher.
3. As a reference for the researcher in the next time.

G. The Definition of Operation Variables

1. Left and Right Brain

Left brain has a character such as motor controls the motion of the body right - sensible, systematic, mechanical - mathematical calculations - analysis, language, images, words - a character straight line, parallel - details, controls, objectives / targets - the ingenuity, worldliness - realities and dominant, direct - active, oriented in the - identity, reading, writing - the ultimate goal, target - to and upon request - a tendency in yourself - the trend is more inward.

Right brain has a character such as: motor controls the motion of the body left - the character of human relationships - acoustics, sound, music - artistic, art, creativity - the symbols, sensuality, space - intuition, imagination, the equation - continuous, permanent, clear - emotions, feelings overview - open, giving priority to feeling - quality oriented -

doubling and processes - and the appearance of spiritual - concerned with the other party - the nature and situation awareness.

2. Writing Ability

Writing /'raɪtɪŋ/ noun, the activity of writing, in contrast to reading, speaking, etc. a group of pieces of writing, especially by a particular person or on a particular subject.⁴ Writing is the physical act of committing words or ideas to some medium, whether it is hieroglyphics inked onto parchment or a 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 a reader.⁵

In other hand the both of part is very important for stimulus brain of students. Students can remember or memorizing in their brain. The first students look a written. The second, from the look it students bring it to brain and the process in mind. Then, the students make it to paper and etc. So, there is process in writing.

⁴*Oxford Advanced Learner's Dictionary*, 7th edition, P. 1769.

⁵David Nunan, *Practical Language Teaching* (North America: The McGraw-Hill, 2003), p. 88.

CHAPTER II

THEORETICAL DESCRIPTION

A. Left and Right Brain

Neurolinguistics, an offspring of psycholinguistics, investigates how the human brain creates and processes speech and language. The disproportionate attention devoted to the well-known anatomical fact that human brains have two separate and virtually identical cerebral hemispheres. An unusual enchantment with the brain in our current culture, so that this anatomical condition has prompted a great deal of discussion about ‘left brain and right brain’ differences in human behavior.⁶

There are millions of association pathways which connect the left and right hemisphere is immediately shared with the other. The function of the corpus callosum (the largest sheath of association pathways connecting the two hemispheres) is often unknown, ignored, or misunderstood so that nowadays it is often represented as a ‘fact’ that there are ‘left-brained and ‘right-brained’ people in the same way that individuals can be left or right handed. Misconceptions like these about neurology lead, quite naturally, to misconceptions about the relationship between the brain and mental states or linguistic structure⁷. Furthermore, the left brain houses the logical and conscious mind whereas the right brain is home to the intuitive and the unconscious⁸.

⁶ Thomas Scovel, *Psycholinguistics* (New York: Oxford University Press, 2001), p. 71.

⁷Thomas Scovel,

⁸Thomas Scovel, p. 79.

1. Left 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 analysis⁹. In Indonesia more important a IQ than EQ, because of that Indonesian's children more ego and not have imaginative that large.

According to Sperry, he states that left brain regulate matters that are rational, is used to measure things quantitatively, work order, partial and sequential.¹⁰ So, human who the dominance of left brain have the logical that high than human of right brain that use of feeling.

Left Brain (IQ) associated with awareness of space, 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.¹¹

The experts began to investigate since the 1930s believed that left brain is the rational brain, which is closely related to IQ, is more logical, arithmetic, verbal, segmental, focus, serial (linear), looking for differences, and time-dependent.¹² The left brain is logical, sequential, linear, and

⁹As'adi Muhammad, *Misteri Otak Tengah Manusia* (Jogjakarta: Buku Biru, 2010), p. 26.

¹⁰As'adi Muhammad.

¹¹Ary Ginanjar Agustian, *ESQ Power* (Jakarta: Arga, 2003), p. 60.

¹²Ippho Santosa, *13 Wasiat Terlarang* (Jakarta: PT Elex Media Komputindo, 2008), p.

rational. This side is very organized although grounded in reality, he is able to abstract and symbolic interpretation.¹³

2. Right brain

The right brain is an emotional brain that is closely related to the EQ (Emotional Quotient), is intuitive, spatial, visual, holistic, diffuse, parallel (lateral), look for similarities, and do not depend on time.¹⁴ The right brain is random, irregular, intuitive and holistic.¹⁵ A series of skills to work their way in the world that is full of twists and turns social issues.¹⁶ The right brain develops the personality, creativity, intuition, the ability of the application, the ability of the stage, and the arts.¹⁷

So Emotional intelligence is the ability to "listen" whisper emotions, and make it as a source of information is most important to understand yourself and others to achieve a goal.¹⁸ In Indonesia seldom use of right brain, why? Because Indonesian's children more important a score than the creativities and imaginative. So, the right brain in second number.

3. Type of Left and Right Brain

A person with a tendency to a more dominant left hemisphere more selfish, self-centered, easily jealous, arrogant and so forth. The left brain is

¹³Bobbi Deporter & Mike Herracki, *Quantum Learning* (New York: Dell Publishing, 1992), p. 36.

¹⁴Ippho Santosa.

¹⁵Bobbi Deporter dan Mike Herracki, p. 38.

¹⁶Ary Ginanjar Agustian, p. 61.

¹⁷As'adi Muhammad, p. 29.

¹⁸As'adi Muhammad p. 62.

like the questions that just have the answer "yes" or "no" and also prefer questioned "is right or wrong." Left brain memory is short term (short term memory). If there is damage to the left hemisphere there will be a disruption in the function of speech, language and mathematics.

The left brain prefers members with proper and thorough 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 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. Any decision should be based on cause and effect, the past experiences, and must have a referral. Every idea must. Based logic first, then only be implemented.

Those who use the left brain is likely to be submissive and walk according to his experiences, and not able to think beyond the bounds of reason, as many thinkers possessed.¹⁹ Usually high IQ people, tend to be less jaunty, unfeeling and selfish.²⁰

However, those people who are using left brain very important in life. Because if matched with the right intelligence, left brain power will be close to optimal. And we must the correlate always to active our mind. So,

¹⁹As'ad Muhammad, p. 26-28.

²⁰Ary Ginanjar Agustian.

our mind can be expression a imagination in mind to developing technique of our mind whenever and wherever.

While, the power of the right brain is long (long term memory). If there is damage to the right brain, such as stroke or tumor in the brain, brain function is impaired visual and emotional ability. The right brain is more like the questions that have a variety of possible answers and more like a "why this is true and it's wrong?". Besides, the right brain prefers analogy, metaphor, and expression of the members an explanation about something. The right brain thinking with shadows and images and try asking about "Is it possible?" To produce a wide range of creativity.

More than that the right brain is also to know something that is nonverbal such as feelings and emotions, consciousness with regard to feelings (feel the presence of something or someone, spatial awareness, shape and pattern recognition, music, art, color sensitivity, creativity and visualization).²¹

It is therefore right and left brain must develop optimally both so much better. And that is to balance with our brain, if left brain more dominance, so we must active again our right brain. Because in our life need balance not in material but our mind or our brain too follow it.

4. Process of Left and Right Brain

Once we know what the definition of the left brain and the right brain is now how the left and right brain working it in an article, even

²¹As'ad Muhammad.p. 30.

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 knowledgeable 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.

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 skill to dig the subconscious is changing the way learning key skills and ways of thinking.²²

Note the table of brain function below:

Table. 1

Brain and Functions Roger Sperry, 1961

THE FUNCTION OF BRAIN	
a. Sequential	a. Random
b. Descriptive	b. Associative
c. Detail	c. Gestalt
d. Letter, Symbol	d. Picture
e. Word	e. Color

²²Taufiq Pasiak, *Revolusi IQ/EQ/SQ* (Bandung: PT MizanPustaka, 2002), p. 125-126.

f. Logic	f. Spontant
g. Rational	g. Intuitive
Intelligence Quotient (IQ)	h. Emotional
	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. 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. Both parts are prepared by billions of nerve cells gray (called the substansia grisea) and billions of white fibers (called the substansia alba). White section located under parts gray.

The composition of these cells also influence the differences in both brain function. Relative right brain contains more white matter. While the gray matter more in the left hemisphere. Nerve fibers in the right brain obviously longer than the left brain. Because it's the right brain can be more in touch and form bonds with each other. "Ways of working" right brain, integrated and comprehensive formed by nerve fibers that has a lot to it.

Seen with the naked eye the surface of the brain looks different. Surface texture and pattern of folds showed a clear distinction. That is, no matter how cursory look the same, but if observed carefully real those

differences. The contours of the "river" is called the sulcus and bumps like a hill called gyrus showed a noticeable difference. Including the part responsible for one function.

Language functions, for example, the left part of the brain, known as Broca's area and Wernicke areas much larger and wider than in the right hemisphere. Front of the frame on the left Broca's area located in the frontal lobe, and serves to mobilize the tools to talk. While Wernicke's area is located next to the left temporal lobe, and serves to capture information in the form of sound. To make contact in language work, they are both connected by a piece of "rope" called connective fibers. Another area, called the angular region that serves to match the language in visual form (which see) and auditory (hears) only in the left hemisphere.

According to Tony Buzan, both hemispheres are like "Sleeping Giant" (the sleeping giant). One of the ways to wake him up, among others, through the study of the brain's two hemispheres intact.²³

Diocles divides the brain into left and right brain. The left brain is associated with the "understanding" and right brain connection with perception and sensing. Diocles members to accept the role of the sensory information coming from the outside and then go to the left brain. An understanding of the information entered is the task of the right brain. Almageon and Empedocles, two famous Greek philosopher, Seide with

²³As'ad Muhammad, p. 130.

Diocles when they are called "census" and "intellectus" for the function of the two hemispheres of the brain.

Subsequent developments, researcher Sperry, the evidence that the two hemispheres of the brain that produce two kinds of minds. A rational mind, the other intuitive-creative mind. The first, working serially and sequentially, and very concerned with things that are concrete and realistic. While the second, working in parallel and not patterned and prioritize those things tend to be abstract and ideal.

Terms such as reason and sense, reason and feeling, intellect and intuition (or between "khabar" and 'ishq, love or heart according to the term poet, philosopher Sir Muhammad Iqbal) or brain and heart are felt in everyday language because of the two types of thought. Because people think it's two ways that life evolved towards dynamics and better.²⁴

From the results of an IQ test, most people who have high IQs showed poor performance on the job, while IQ was, it was very accomplished. Academic ability, grades, graduation predicates of higher education can't be a measure of how well a person after work or how high a success to be achieved. According to the 1973 Cleland paper "Testing For Competence" that "particular set of skills such as empathy, self-discipline, and the initiative will result in people who are successful and the stars of the performance²⁵,

Look at the table of differences in the left and right brain below:

²⁴As'ad Muhammad, p. 132.

²⁵Ary Ginanjar Agustian, *Rahasia Sukses Membangun Kecerdasan Emosi dan Spiritual (ESQ)* (Jakarta: Arga, 2001), p.56.

Table. 2

The differences in the left brain and right brain by Roger Sperry:

HEMISPHERE	LEFT	RIGHT
Abstract Thought	Abstract, Linear, Concrete	Concrete, Holistic
Thinking Style	Rational, logic	Intuitive, artistic
Language	Rich of words, Sentences and Good Grammar	No Grammar and Sentences few word
The ability to decide	Introspection, will, initiative, about yourself, focus on tree	Low sense of self, luck of initiative, focusing on the forest
Specificityfunctions	Reading, Writing, Arithmetic, and sensorymotor skills	Music, in a dream, imagination, Gestalt recognition
Time	Sequential, scalable,	Life time, not timeless
Spatial orientation	Not good nice	Very good, especiallyfor a space oran image.
Aspects ofpsychoanalytic	Ego, conscious, super ego	Idi, dreams, free association, hallucination
Ideal type	Aristoteles, Model	Plato, Modeldionition,

	Appollonial, Marx Fruded, koester's	nitzeche, Jung koestel's, yog.
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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:²⁶

Table. 3

"Four Brain" Ned Herman

TOP LEFT (Analytic Thinking)		TOP RIGHT (Social Thinking)	
Style	Application	Style	Application
1. Logic Logical	1.	1. Holistic Imagination	1.
2. Analysis Analytical	2.	2. Intuitive	2. Artistic
3. Factual Mathematics	3	3. Integration	3. Sintesis
4. Techniques 5. Scientific	4. Measurement	4.Synthesis	4. Nonlinear

²⁶*Ibid*, p. 134-135.

BOTTOM LEFT (Implementation Thinking)		BOTTOM RIGHT (Future Thinking)	
Style	Application	Style	Application
1. Organization	1. Control	1. Interpersonal	1. Hub. Social
2. Sequential	2. Conservative	2. Social	2. Emotional
3. Planning	3. Organizational	3. Kinesthetic	3. Spirituality
4. Detailed	4.	4. Emotion	
Administrative			

Then can be seen table of third intelligence below:

Table. 4

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
Adjective	Automatic properties	Flexible	Can be change
Excess/luck	Accurate, precise, trustworthy	Not accurate, flexible	Very accurate
Basic	Newtonian	Humanism	Philosophy,

philosophical			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.
Machine	Series Computer	Computer analog	None
Learn processing	Can't learn	Can learn	Can learn
Psychology process	Prapersonal	Personal	Transpersonal

In the table above plus the spiritual Quotient, because this is also one way of thinking in his Iphho agamais as a member Santosa example that there is a friend Helmi Wahidi, having principles and sticking to the book Al-Quran that says, "he who doing good and faithful, then he is not worried about the reduction of debt ".²⁷ This kind of thinking can't be

²⁷Iphho Santosa, *7 KeajaibanRezeki* (Jakarta: PT Elex Media Komputindo, 2010), p. 32.

calculated or sensible. But here's intuition or belief and way of thinking of people using right-brain dominant.

5. Islam and the Right Brain

Islam is not just a rule or law, but also science, love, affection, and the most impressive is the emotional intelligence or EQ (Emotional Quotient), even a concept of the pillars of faith, Pillars of Islam and Ihsan which the religion of Islam. Where all Muslims must believe in the six pillars of faith. Perform the pillars of Islam. And the most important is that we worship Ihsan as if seeing God.

Man is a two-dimensional alignment that requires the need for physical and spiritual interests. Therefore man must have a concept of temporal or emotional sensitivity and good intelligence (IQ plus EQ) and it is also important ruhiah mastery vertical or spiritual quotient (SQ). emotions have been many studies proving that emotional intelligence has a much more significant role than the intelligence quotient (IQ). Intelligence (IQ) play a role limited to the minimum required to achieve success, but emotional intelligence someone who actually drove to the summit of achievement. It has been proven, many people who have high intelligence, slumped amid the competition. Instead many who have intellectual mediocrity, it went on to become stars performance; successful

entrepreneurs, and leaders in the various groups. This is where emotional intelligence (EQ) prove the extention.²⁸

To the problems investigate about EQ, scientists have spent more than twenty years. Such as, Robert K Cooper PhD, quoting the words of Robert Frost as an aspect of "what they left behind and they often forget is the aspect referred to by Robert Frost as an aspect of" Heart ". This opinion is reinforced by the opinion of a psychologist from Yale, Robert Stenberg, an expert in the field of Succesfull Intellegence who said: "if the ruling IQ, is because we let it do so. And if we let him in power, we have chosen a bad ruler.

It's got strong evidence from a survey of thousands of executives, managers, and entrepreneurs who showed that most of them rely on impulse conscience as a source of emotional intelligence in almost all decisions and interactions are taken over the years.

This above is a bit contrary to our education system for this, which overstate the importance of academic value only. Ranging from primary school level to the college, rarely found on emotional intelligence education teaching: integrity, honesty, commitment, vision, creativity, mental toughness, wisdom, justice, the principle of confidence, self-control or synergies.

Based survey in the United States in 1918 on IQ, found, "paradox" dangerous "while children's IQ scores higher, their emotional intelligence

²⁸Ary Ginanjar Agustian, *ESQ Emotional Spiritual Quotient the Way 165 1 Ihsan 6 rukun Iman dan 5 rukun Islam* (Jakarta: Arga Publishing, 2007) p. Xvi-Xvii.

actually fell. More worryingly, the data from a massive survey in 1970 and 1980 against the parents and teachers showed, "the current generation of children more frequently experience emotional problems than previous generations. Altogether, the children are now grown in loneliness and depression, irritability and unruly, more nervous and anxious tend; impulsive and aggressive.

Academic ability, good grades, high school graduation predicate can be not the only talk measure how well a person's performance on the job or how high the success that can be achieved. According to McClelland 1973 titled testing for competence rather than intelligence, "a set of specific skills such as empathy, self-discipline, and initiative; would distinguish between those who are successful as the performance of the field work was limited survive. So the conclusion is the core of personal and social skills that are key to the success of a person's emotional intelligence really is. EQ is upon ability to feel. Emotional intelligence is a key on your honesty on your conscience.²⁹

As known that children have an honest nature. Memorize of the children is very strong. Children aged 8-12 years who have great memories of reaching the intensity. Rote memorization power and power (intentionally inserting and embedding knowledge in memory) is the most powerful. Children are able to load the most amount of memory material.

²⁹*Ibid*, p. 5-9.

Fantasy life experienced important changes. At the age of 8-9 years old children like all fairy tales. For example, golden cucumber, onion garlic, Malin Kundang, Bandung Bandawasa, Lara Jonggrang, and others. The elements of a great and magical in this gripping tales of all children's interests. Gradually, elements of criticism began to emerge, and the child now wants the real events that actually happened, or should have happened. Therefore the child enjoys stories of heroism. Therefore, as we age can also affect a child's brain either IQ or EQ³⁰.

Thus the importance of the ability of the brain in man. Thus, any activity that affects everything we want to do. As in writing, everyone can write but not all the posts can be accepted by the reader. Here are four ways to help you develop a vocabulary of great thinkers:

1. Use words and phrases that are large, positive, and cheerful to describe your feelings.
2. Use words and phrases that are right, cheerful and fun to portray someone else.
3. Use positive language to encourage other people.
4. Use positive words to summarize the plan to others³¹.

After seeing the above information. Now, how creative thinking and dreaming. First, let's clear up an erroneous idea of the meaning of creative thinking. Because some illogical reason, science, technology, art

³⁰Drs. H. Abu Ahmadi & Drs. Munawar Sholeh, *Psikologi Perkembangan* (Jakarta: PT Rineke Cipta, 2005) p. 118.

³¹David J. Schwartz, *Berfikir dan Berjiwa Besar (the magic of thinking big)* (Batam: Binarupa Aksara, 2007), p. 105-106.

and writing is considered as the only one that requires thinking really creative. Most people associate creative thinking with things like the discovery of electricity or polio vaccines, or the novel or the development of color television.

Of course this is an achievement that has been evident from the way of thinking creatively. Each step forward in the conquest of space is the result of creative thinking. However, creative thinking is not limited to a particular job, not just for the super smart people. Then, the meaning of creative thinking it is a discovery of new ways to better do anything. For example, a low-income family who plan to send their sons to the university³². So think creatively has a very broad meaning, not like that produced by IQ alone, but with the way of thinking that motivates EQ spontaneity.

To motivate our minds the thought of having to be at peak condition. That is, you must be relaxed, confident, and motivated. When you feel stressed, bored, or lacking in confidence or can be not see the point of studying the subject, you will not be able to learn well.

Have the right attitude in learning something is an absolute prerequisite. You must have the desire to learn new knowledge or skills. You have to have confidence that is able to learn, and that the information obtained would be useful to have influence in life. In other words, look at the personal benefits of investing your time and energy. Think, "what is in

³²David J. Schwartz, p. 132-133.

it for me?" Sir Christopher Ball, director of education for the Encouregement Royal Society of Arts, manufactures, and commerce (RSA) the prestigious says: "The three most important factors in learning is, motivation, motivation and motivation"³³.

Robert Ornstein in his research has shown the process of thinking is a complex combination of words, images, scenarios, color, and even sounds and music. Because of the way it presents and captures the content by creating a map of learning on average quite close to the way brain surgery is a natural thought. Brain like a dense forest comprising tens of thousands of trees, with berates-hundred branches, branches of millions, and billions of twigs. Map study formed the same way. Here information is stored in the branches of a central theme, although in a much smaller scale! when making a map of learning, style processing of the left hemisphere and the right to be fully involved.

By using learning maps, new information will be absorbed easily remembered and kept in mind our brains. This format is very suitable for visual learners and global, and in addition, the emotional brain can further involved with the use of different types of colors in the learning map. Moreover, the information that you have created yourself such as maps will learning is personal and specific to you.

Creating a visual record are things that have been done throughout human history. Look at the cave paintings of primitive man and

³³John Morellus, *Belajar Efektif Ala Jenius* (Panji Digital Pers, 1999), p. 4.

hieroglyphic writing of ancient Egyptian times. If left to their own devices, children will also be sketching and doodling when given new ideas³⁴.

Master artist, Nancy Margulies, author of *Mapping inner space and yes, you can Draw* said, before creating the language, we visualize our thinking pictures and links on these concepts. Unfortunately, we often block the creative channel to train the children to write words only, in monochrome, on lined paper.

Most of us, the idea is traditional to write linearly, on lined paper, using the same color (usually blue, black, or gray), is a habit that is ingrained. It is also monotonous boring Ask Tony Buzan, developer of map learning technique called mind mapping, and what brains do when he is bored? He faded, outages, and went to bed. Thus, 95% of the human population is making notes in a way that will only make them bored and distracted, and sent most of them situation unconscious.

Try to see libraries in schools, universities, cities large and small throughout the world. What do half the people are library it? Sleep! where we learn to be a giant common bedroom! Retraining our brains to illustrate the ideas that poured from a central picture takes practice and patience. Heat is to train the skill to become automatic³⁵.

While the left brain is the task that is always associated with numbers, language analysis, logic, intellectual science. The right brain is responsible in terms of imagination, creativity, arts, music, innovation,

³⁴John Morellus, p. 43.

³⁵John Morellus, p. 44.

creativity, intuition, subconscious mind, sincerity, happiness, spirit, tenacity, honesty, beauty and others. In addition to taken care of by the left brain, right brain is also a concern.

"The right brain has the capability in terms of empathy or concern that high. The right brain also has the ability to collaborate with the heart, have the ability and the power of the creative arts. The specialty of the right brain has brain waves with alpha waves. These waves could feel the sincerity, happiness, serenity, humility, relax, quiet, contentment, and so imaginative.

B. Writing

Writing is an activity to express ideas with structure and grammar. Similarity, McWhorter. Kathleen T says that "writing is an excellent means of monitoring and improving your comprehension and retention. It is also an effective learning strategy.

Writing is the physical act of committing words 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 a reader³⁶.

It is both a process and a product. The writer imagines, organizes, drafts, edits, reads, and rereads. This process of writing is often cyclical, and sometimes disorderly. Ultimately, what the audience sees, whether it is an

³⁶David Nunan.

instructor or a wider audience is a product-an essay, letter, story, or research report.

Then according Hamps-Lyons 1990. Writing is personal act in which writers take ideas or prompts and transform them into “self-initiated” topics³⁷. So the conclusion, writing is the process of giving information by texts, that involved in generating the letters, words and sentences. Typically one will use a writing utensil (such as a pen/ pencil to write characters on paper or computer (type writer).

1. The Kinds of Writing

a. Scientific Writing

- 1). Educational research
- 2). Research writing

b. Inform active writing

- 1). Story
- 2). Report
- 3). Summary
- 4). Review

c. Prose

- 1). Novel
- 2). Short story
- 3). Fiction
- 4). Drama

³⁷J. Michael O'Malley & Lorraine Valdez Pierce, *Authentic Assessment For English Language Learners* (New York: Addison-Wesley Publishing Company, 1996), p.136.

d. Poem

- 1). Lyric
- 2). Epic
- 3). Dramatic

2. The Steps of Successful Writing

a. Preparation

- 1). Writing like technical task, requires solid preparation. In fact, adequate preparation is important as writing the draft.
- 2). Preparation for writing consists
 - a). Establishing objective
 - b). Identifying the readers
 - c). Determining the scope of coverage

b. Research

The purpose of most writing is to explain something that is complex. This kind of writing cannot be done by someone who does not understand the subject he or she is writing about. The way to be sure that you can deal adequately with complex subject are:

- 1). Taking notes
- 2). Doing library research
- 3). Interviewing for information
- 4). Creating and using a questionnaire

c. Organizing

Without organization, the material gathered during your research world it incomprehensible to your reader. Thus you must determine the best sequence in which your ideas should be presented.

- 1). Choosing the best method of development
- 2). Defining
- 3). Creating and using illustration
- 4). Selecting an appropriate format

d. Writing draft

When you have established your objective, readers need, and scope and have completed your research and your outline, you will be well prepared to write your first draft.³⁸

- 1). Choosing a point of view
- 2) Developing topic sentences
- 3) Writing paragraph
- 4) Using quotation and paraphrasing
- 5) Writing introduction
- 6) Writing the body
- 7) Writing conclusion
- 8) Choosing a title
- 9) Using word processor

³⁸J. Michael O'Malley & Lorraine Valdez Pierce.

e. Revising

The final step of writing is revision. Don not try to do all your revising at once. Read your draft several times. Each time looking for and correcting a different set of problem or errors.

- 1) Checking for completeness and accuracy
- 2) Checking for unity and coherence
- 3) Making smooth transition
- 4) Emphasizing main idea
- 5) Checking for clarity
- 6) Checking for logic
- 7) Defining terms
- 8) Eliminating ambiguity
- 9) Checking for appropriate word choice
- 10) Eliminating affection and jargon
- 11) Achieving conciseness
- 12) Eliminating clichés and title language
- 13) Making writing active (voice)
- 14) Checking for parallel structure

3. Purpose of Writing

Purpose 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. The three purposes described are similar to the purposes used national assessments (NAEP 1987) and encompass the major types of writing in programs for ELL students as well as in many state writing assessments.

- a. 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 relationships. This type of writing could include a biography about a well-known person or someone from the writer's life.
- b. Expressive/narrative writing is a personal or imaginative expression in which the writer produces stories or essay. This type of writing is often based on observations of people, objects, and places and may include creative speculations and interpretations.
- c. In persuasive writing, writers attempt to influence others 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.³⁹

³⁹J. Michael O'Malley & Lorraine Valdez Pierce, p. 137.

Its purpose is both to express and impress. Writers typically serve two masters: themselves and their own desires to express an idea or feeling, and readers, also called the audience, who need to have ideas expressed in certain ways⁴⁰.

4. Process of Writing

It is both a process and a product. The writer imagines, organizes, drafts, edits, reads, and rereads. This process of writing is often cyclical, and sometimes disorderly. Ultimately, what the audience sees, whether it is an instructor or a wider audience is a product-an essay, letter, story, or research report⁴¹.

According Hudelson 1989, In process writing, students are involved in the construction of narratives on topics in which they have a personal interest⁴². Sometimes Written can interest because reader feel what reader feel. Usually the children like narratives story.

In conclusion, writing is an activity that is productive and expressive. Therefore a writer should be skilled use of graphology, grammar, and vocabulary. Writing skills will not come automatically, but through a lot of training and practice and regular⁴³.

⁴⁰David Nunan.

⁴¹David Nunan

⁴² George E. Wishon & Julia M. Burks, *Lets Write English Revised Edition* (New York: Mei Ya Taiwan Edition, 1980), p.53.

⁴³Prof. DR. Henry Guntur Tarigan, *Menulis Sebagai Suatu Keterampilan Berbahasa* (Bandung: Angkasa, 1986), p. 3-4.

5. The direct Testing of Writing

For a student in an EAP context it might involve search reading of an academic text to extract specified information for use in a written summary.⁴⁴

a. Essay Test

The stimulus is normally written and can vary in length from a limited number of words to several sentences.

b. Editing Task

The student is given text containing a number of errors of grammar, spelling and punctuation of the type noted as common by remedial teachers of students in the target group and is asked to rewrite the passage making all the necessary corrections.

c. Controlled Writing Tasks

To omit a writing task in situations where writing tasks are an important feature of the student's real life needs might severely lower the validity of a testing programmer.

d. Summary

Summary can be a valid test in certain domains.

C. The Review of Related Finding

There was a researchers that has done a research same with mine but different technique. The related findings were firstly, a thesis of Somakim in FKIP Universitas Sriwijaya 2008 with the researchers' title "Pembelajaran

⁴⁴Cyril J. Weir, *Communicative Language Testing* (New York: Prentice Hall, tt.), p. 160.

Matematika Dengan Melibatkan Manajemen Otak (Suatu Alternatif Pembelajaran Interaktif) ”⁴⁵. This research used pre-experiment method. He Concludes are “Manajemen Otak atau *Brain Management* merupakan kemampuan menggunakan fungsi otak secara seimbang antara otak kiri dan otak kanan. Pembelajaran matematika dengan melibatkan manajemen otak akan mengembangkan pembelajaran yang interaktif, sehingga pelajaran matematika menjadi menyenangkan bagi siswa”.

Secondly, a thesis was done in Fakultas Bahasa dan Seni in Universitas Medan. The researcher’s name is Nurilam Harianja with the researchers’ title “Hubungan Bahasa Dengan Otak”⁴⁶. This Concludes are:

Hasil- hasil penelitian tentang penderita kerusakan otak itu mengarah kepadakesimpulan bahwa belahan kiri otak dilibatkan dalam hubungannya dengan bahasa. Krashen, dalam (cahyono, 1995 : 259) menyebutkan lima alasan yang mendasari kesimpulan itu.

1. Hilangnya kemampuan berbahasa karen kerusakan otak sebelah kiri.
2. Ketika belahan kiri otak disanastesia, kemampuan berbahasa hilang, namun ketika belahan kanan otak dianastesia kemampuan tidak hilang.
3. Ketika bersaing dalam menerima input bahasa secara bersamaan melalui tes menyimak dikotis, telinga kanan lebih unggul
4. Ketika materi bahasa disajikan melalui penglihatan kanan dan kiri makan

⁴⁵ Somakim, *Pembelajaran Matematika Dengan Melibatkan Manajemen Otak (Suatu Alternatif Pembelajaran Interaktif)*, (Thesis Universitas Sriwijaya 2008). From Internet

⁴⁶Nurilam Harianja, *Hubungan Bahasa Dengan Seni*, (Thesis UNIMED tt). From: Internet

penglihatan kanan lebih tepat dan cepat dalam menangkap materi

5. Pada saat melakukan kegiatan berbahasa, baik secara terbuka atau tertutup, belahan otak kiri menunjukkan kegiatan listrik yang lebih hebat.

Finally, a thesis of Elly Fajarwati in Fakultas Psikologi Universitas Katolik Soegijapranata Semarang 2009 by “Hubungan Antara Bermain Balok Dengan Kreativitas Anak”⁴⁷. This research used Kuantitatif thod. She concludes that “Berdasarkan hasil penelitian, analisis data dan pembahasan maka dapat diambil kesimpulan bahwa terdapat hubungan antara bermain balok dengan kreativitas anak. Dari hasil tersebut dapat dikatakan bahwa semakin tinggi kemampuan siswa bermain balok maka semakin tinggi tingkat kreativitasnya, demikian sebaliknya”.

D. Hypotheses

Suharsimi Arikunto said Hypotheses derived from two words, namely "Hypo" means "under" and "Thesa" yan means "truth". So then how to write hypothesis adapted to Indonesian Spelling a hypothesis, and a hypothesis developing. The hypothesis can be interpreted as a temporary answer to the problem of research, until proven by the data collected.⁴⁸

In accordance with the formulation and limitation of the problem above and in order to provide a guidance for this research which specifies the correct processing, acquiring and analyzing of the data, it needs to formulate

⁴⁷Elly Fajarwati, *Hubungan Antara Bermain Balok Dengan Kreativitas Anak* (Thesis UNIKA Semarang 2009). From internet

⁴⁸Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik* (Jakarta: Rineke Cipta, 2006), p. 71.

hypotheses of this research are as follows: There are correlation significantly between left and right brain to student's writing ability at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padagsidimpuan.

CHAPTER III

RESEARCH METHODOLOGY

A. The Location and Time of the Research

This study was conducted at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padangsidempuan as a place of research and it was located on Sudirman Street Padangsidempuan. In addition to its implementation was planned for the first semester of academic year 2013 / 2014 or in the period from October to November 2013. Selection of place and time was based on the activities of observation of Field Experience Practice PPL for student, then the researcher was as the supervisor which was conducted from January to March 2012, in the same school as the study site. Then from the interview was known that in addition to academic achievement in the field, at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padangsidempuan students also excel in the field of arts and sports.

B. The Kinds of the Research

The research method was a process undertaken to complete a study, for it was necessary to take measures in order to study systematically realized, planned and followed a scientific concept, In this case the writer used a method of quantitative descriptive correlation approach. According to Moh. Nazir descriptive methods were:

“Suatu metode dalam penelitian suatu kelompok manusia, suatu objek, suatu set kondisi, suatu sistem pemikiran, ataupun suatu kelas peristiwa pada masa sekarang. Tujuan penelitian deskriptif ini adalah untuk membuat deskripsi, gambaran atau lukisan secara sistematis, aktual, akurat

mengenai fakta-fakta, sifat-sifat serta hubungan antara fenomena yang diselidiki”⁴⁹

"Is a method in the study of a group of people, an object, a set of conditions, a system of thought, or a class of events in the present. Purpose of this descriptive study was to create a description, picture, or drawing systematically, actual, accurate regarding facts, properties and relationships between phenomena under investigation".

From above opinion could be taken the opinion research was a descriptive study using quantitative correlation approach which aims to investigate the correlation of the left brain and the right brain of the students' writing skills in Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padangsidempuan.

C. The Population and Sample

1. Population

Population was all members of well-defined class of people, event, or object of population was the elements of research as target of result research theoretically. The population was generalization area consist of object / subject was special quantity and characteristic which determined by researcher to get concluding. So, every human was researched by researcher that was population that taken of the sample.

Joko Subagyo says the population is the object of study as a target to acquire and collect data. Samples were taken into consideration in the study of efficiency and lead to the centralization of the problem by focusing on the

⁴⁹Moh. Nazir, *Metode Penelitian* (Jakarta: Ghalia Indonesia, 2005), hlm. 54.

portion of the population.⁵⁰ According to Bambang Prasetyo whole population was symptom / unit you want investigated.⁵¹

The population that was researched in this occasion was class X in Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padangsidempuan. The students limited to those who belong to class X SMA Negeri 2 Padangsidempuan.

The calculation can be seen in the following table:

Table. 5

The calculation of population

No.	Class	Total Students'
1	X-1	28
2	X-2	29
3	X-3	29
4	X-4	28
5	X-5	29
6	X-6	31
7	X-7	30
8	X-8	30
Total		236

⁵⁰Joko Subagyo, *Metode Penelitian Dalam Teori dan Praktik* (Jakarta: Rineke Cipta, 2004), p. 23.

⁵¹Bambang Prasetyo & Lina Miftahul Jannah, *Metode penelitian Kuantitatif* (Jakarta: Raja Grafindo Persada, 2007), p. 119.

2. Sample

Sample is sub group taken from a population. As Suharsimi explains, "Sample is a partly of population which is researched in a research."⁵² In other word, sample was part or presented of the population. Because the population more than 100 students. Then, the researcher chose some of them as the sample in the research. Sudjana determines, cluster sampling "It's used a large population, so that must be divided into classes, or groups. In the other word the analysis of unit is not individual but classes or groups which is consist of some individuals"⁵³. Therefore, based on the quotation previously, the writer chose cluster sampling to take the data.

For this technique, the researcher used lottery technique that was by selecting the sample writing each class name on slips of paper, and places all the slips in container, the container was shaken and the slip 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 X-5 that consist of 29 students but there were two students' who did not come. So that, the samples became twenty seven students.

D. The Instrument of Data Collecting

Instrument is a very important to be learned to ensure data retrieval really. Suharsimi Arikunto states research instrument is an instrument or

⁵²Bambang Prasetyo & Lina Miftahul Jannah, p. 117

⁵³ Nana Sudjana, *Penelitian dan Penilaian Pendidikan*, (Bandung: Sinar Batu Algesindo, 2001), p. 92

facility used to collect the data so that the work easier and the results better, in terms of more accurate, complete, and systematically so more easily processed.⁵⁴

1. Questionnaire

Questionnaire in this study used to determine the use of hemispheric dominance, held by the sampled students, called Questionnaire left Brain Hemisphere Dominance use. To questionnaire prepared by the researcher, although some questions quoted from the book which was written by Ippo Santosa and internet, quoted from the book, and then held a slight change shape and editorial sentences for easy using.

Questionnaire used a questionnaire that covered already provided the answer questionnaires so that respondents chose to live. In this case, used Likert scale with five alternative answers in multiple - choice form, namely a, b, c, d and e by using the positive form of the question was to use the types of questions that build the classification;⁵⁵

The classification can be seen in the following table:

Table 6.

The Classification of Scale Likert

Option	Score
Always	5
Often	4

⁵⁴ Suharsimi Arikunto, p. 136.

⁵⁵ Sugiyono, *Metode Penelitian Kuantitatif, Kualitatif dan R & D*, (Bandung: Alfabeta, 2010), p. 94.

Sometimes	3
Almost	2
never	1
Never	

Grating research questionnaire the correlation between left brain and right brain students of Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padagsidimpuan the following table:

Table.7

Grating research questionnaire relationship between left brain and right brain students of Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padagsidimpuan.

Variable X	Indicator		No. Item
The left and Right Brain	1. IQ		1, 2, 3, 4, 5
	2. Logic		6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
	3. Planning		19, 20, 21, 22
	4. Quantitative		23, 24, 25, 26
	5. Sequential		27, 28, 29, 30
	1. EQ		1, 2, 3, 4, 5, 6, 7, 8

	2. Qualitative		9, 10, 11, 12, 13, 14
	3. Planning		15, 16, 17, 18
	4. Visual		19, 20, 21, 22, 23
	5. Not Planning		24, 25, 26, 27, 28, 29, 30
	Total		60

2. Test

Test is the treatment that used to measure knowledge, intelligence, and ability or skills of someone or groups. The essay test form consisted of one question. The test was a story about writing practice: Description. Writing was 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, then, next, afterwards, was also stressed⁵⁶. It was done to know the students writing ability.

The research test grating writing skill can be seen in the following table:

Table. 8

Research Test grating writing skills of students of Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padagsidimpuan:

⁵⁶George E. Wishon & Julia M. Burks, p. 128

Variable Y	Indicator	No. Item	Score
Writing Ability	Writing Practice:		
	1. Vocabulary		25
	2. Tenses (Simple Present Tense)	1	25
	3. Sequence Expression		25
	4. Topic		25
Total		1	100

E. The Test Validity and Instrument Reliability

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:

1. 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

Further tested by t-test, with the formula $t_{count} = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$

Description:

t = t_{count}

r = Coefficient of correlation of results r_{count}

n = Number of respondents

Rule-making: if $t_{\text{count}} > t_{\text{table}}$ means valid, and if otherwise $t_{\text{count}} < t_{\text{table}}$ means invalid.⁵⁷

2. Question Reliability

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

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

Descriptions:

r_{11} = Reliability instrument

k = total score each item

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

δ_t^2 = varians total⁵⁸

The formula of varians $V_1 = \left[\frac{\sum x^2 - \frac{(\sum x)^2}{N}}{N} \right]$ ⁵⁹

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

⁵⁷Riduwan, *Belajar Mudah Penelitian untuk Guru-Karyawan dan Peneliti Pemula* (Bandung: Alfabeta, 2000), p. 98.

⁵⁸ Suharsimi Arikunto, *Manajemen Penelitian*, p. 235-236.

⁵⁹ Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik*, p. 160.

F. The Data Analysis

After collecting the data, the writer analyzed the data, using techniques as follows:

- a. Brainstorming was students list all they can think of related to a topic, either in writing or aloud, quickly and without much planning.
- b. Word mapping was a more visual form of brainstorming. When students created word maps, they began with idea at the top or center of a blank piece of paper.
- c. Quick writing was students began with a topic, then write rapidly about it.

These strategies theoretically judged to be good to apply in writing ability.

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

1) Descriptive Statistic Analysis

Descriptive statistics is a static function to describe or give a picture of the object being investigated through the data sample and the population as it is without doing analysis and making conclusions or generalizations apply to the public.⁶⁰ Descriptive statistics are the ways of presenting the data analyzed by the following data:

a) Mean (average)

The formula used: $M_x = \frac{\sum fx}{N}$

Description:

$M_x = \text{Mean (average)}$

⁶⁰Sugiyono, p. 80.

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

N = number of samples.⁶¹

b) Median

The formula used:

$$\text{Median} = \ell + \left(\frac{1/2N - fk_b}{f_i} \right) xi$$

Description:

ℓ = lower limit of the real-containing median score

fk_b = cumulative frequency lies below the median score containing

f_i = original frequency (frequency of scores containing median)⁶²

c) Modus

The formula used: $M_o = \ell + \left(\frac{f_a}{f_a + f_b} \right) xi$

Description:

M_o = mode

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

f_a = frequency located at the interval that contains the mode

f_b = frequency located below the interval containing mode

i = class interval⁶³

d) Standard Deviation.

The formula used: $SD = \sqrt{\frac{\sum fx^2}{N}}$

85. ⁶¹Anas Sudijono, *Pengantar Statistik Pendidikan* (Jakarta: PT: Grafindo Persada, 2008), p.

⁶²Anas Sudijono, p. 97.

⁶³Anas Sudijono, p. 106.

Description:

SD = Standard Deviation

Fx^2 = number by multiplying the frequency of each score with the squared deviation

N = Number of samples.⁶⁴

e) Histogram (bar chart)

The results of measurements in the form of figures from the mean results were then analyzed to give the interpretation of the distribution of the data obtained on population, to seek the categorization was done by formula:

a) Strong: M (mean) + 1 SD to rank up

b) Medium: M (mean) - 1 elementary to middle ranking

c) Weak: lower rank.⁶⁵

2) Furthermore, to determine whether there was correlation between left and right brain to students' writing ability, used the formula of Jaspens's⁶⁶ correlation as follow:

$$M = \frac{\sum(Y_i)(O_b - O_a)}{(S_y) \sum \left(\frac{(O_b - O_a)}{P} \right)^2}$$

Where :

Y_i = Average for each level group

P = Proporsi each sampel with all the sampel.

⁶⁴Anas Sudijono, p. 159.

⁶⁵Anas Sudijono, p. 176.

⁶⁶ Iqbal Hasan, *Analisa Data Penelitian Dengan Statistik*, (Jakarta: Bumi Aksara, 2004) p.

C_p = Cumulatif proporsi.

O_b = Ordinat value with P.

O_a = Value in each ordinat for Ob

S_y = Standard deviation Y

$$S_y = \sqrt{\frac{\sum y - \frac{(\sum y)^2}{NT}}{NT}}$$

To know significantly between ordinal variable and interval variable or ratio, by change to Jaspens' value before r (used):

$$r = (m) \sqrt{\sum \left(\frac{Ob - Oa}{p} \right)^2} \text{ With } db = nr - 2$$

The Categories value corelation coefficient and strength corelation⁶⁷ can be seen in the following table:

Table. 9

Categories value corelation coefficient and strength corelation

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

⁶⁷Anas Sudijono, p. 40

CHAPTER IV

THE RESULT OF RESEARCH

In this chapter the author discussed the results of testing the research instrument in the form of a questionnaire and discuss the results of research on the correlation between left and right brain to students' writing ability at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padagsidimpuan.

A. The Description of Data

To facilitate understanding of the results of this study, then the data described by a sequence of variables. Description of research results started from variable (X) was the left and Right brain, and variable (Y) was the writing ability.

1. Data Questionnaire of Left and Right Brain

This research was conducted at grade X-5 students of Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padagsidimpuan. In collecting the data, the researcher gave students questionnaire to get the data about left and right brain. After collecting the data of this research the researcher found the score of student's left and right brain for variable (X) as below:

Table. 10

The Score of Respondents' Left and Right Brain.

N0.	Initials of Respondents	Left and Right Brain (X)				
		5	4	3	2	1
1	RD		√			
2	AM	√		√		

3	MH	√	√	√		√
4	AI		√			√
5	DS	√	√			
6	AMH			√		
7	SLN			√	√	√
8	ET		√		√	
9	JT		√		√	
10	AR	√	√			
11	AG					
12	FRI			√		
13	DS		√	√		√
14	PIN					√
15	YEC			√	√	√
16	RR		√	√		
17	TRS	√	√		√	
18	CRC					
19	SM	√		√	√	
20	LS	√	√		√	
21	ER			√		√
22	FW			√		√
23	EP		√	√		√
24	YN				√	
25	IO					√
26	YO		√	√	√	√
27	LY		√	√		
Total		7	14	14	9	11

From the calculation of the respondents' answers to the questions asked in the questionnaire, the scores derived from left and right brain variables as contained in the following table:

Table. 11

Summary Description of Left and Right Brain Data

No	Option	Score	Frequency	Percentage
1	Always	5	7	0.13 %
2	Often	4	14	0.26 %
3	Sometimes	3	14	0.26 %
4	Almost Never	2	9	0.17 %
5	Never	1	11	0.20 %
Total			54	100%

The spread of data between left brain on the next could be described with a histogram as contained in the following figure 1:

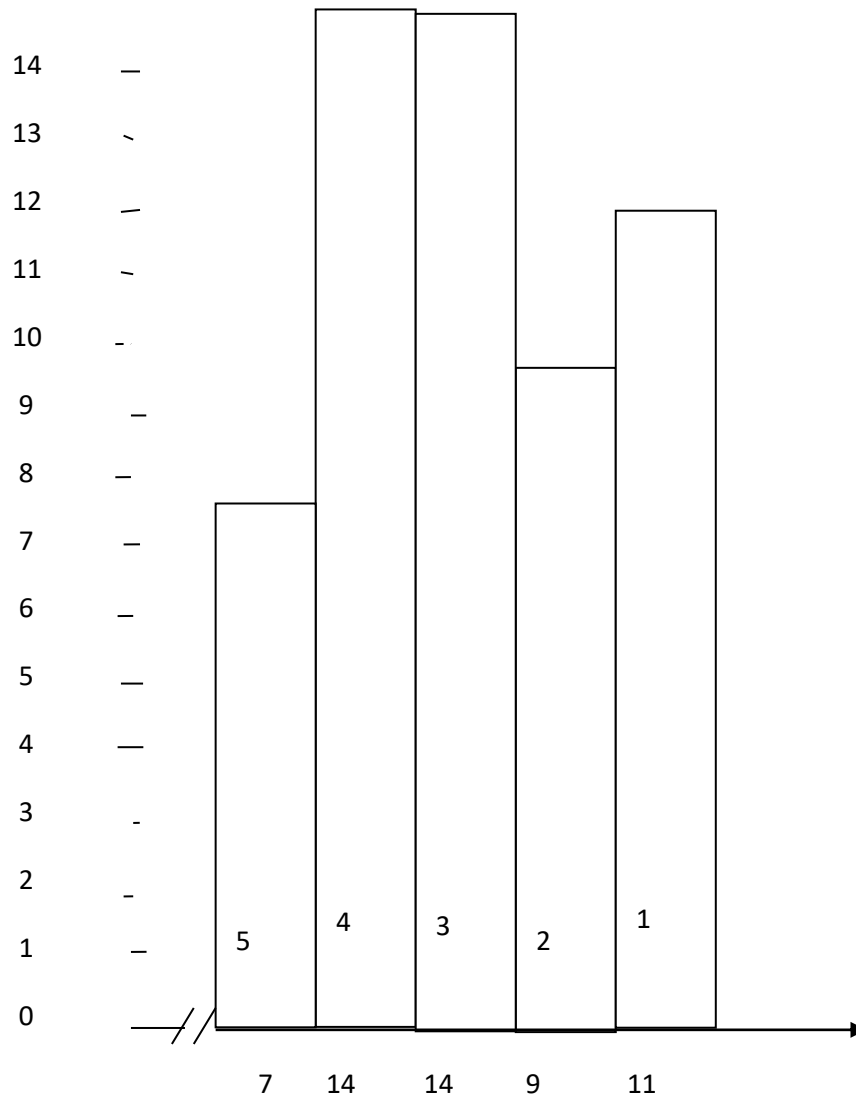


Figure 1.Histogram of Left and Right Brain Score.

2. Data Test of writing description

Based on the last of the report result that was the writing description the students' lowest 55, and the highest was 93. The report result of the students' writing ability can be seen on the table below

Table 12.

The Score of Respondents' Writing Ability

N0.	Initials of Respondents	Writing Ability (Y)
1	RD	70
2	AM	78
3	MH	66
4	AI	63
5	DS	68
6	AM H	66
7	SLA	69
8	ET	62
9	JT	55
10	AR	70
11	AG	70
12	FRI	67
13	DS	68
14	PIN	93
15	YEC	60
16	RR	61
17	TRS	72
18	CRC	77
19	SM	66
20	LS	73
21	ER	78
22	FW	82
23	EP	77
24	YN	73
25	IO	70
26	YO	88
27	LY	76

From the calculation of the respondents' answers to the questions asked in the questionnaire, the scores derived from writing ability variables as contained in the following table:

Table 13.

Summary Description of writing ability Data

No	Statistic	Variable
1	High Score	93

2	Low Score	55
3	Range	38
4	Many Class (k)	6
5	Interval (i)	6
6	Mean (rata-rata)	71.3
7	Median	69.7
8	Modus	68.5
9	Standard Deviation	10.5

From the above data it could be seen that the highest score variable writing ability achieved by the sample amounted to 27 people were the highest at 93 and the lowest score of 55, a mean of 71.3 a median of 69.7 and mode of 68.5. Thus the frequency distribution of the data presented was a frequency distribution that was normal or symmetrical. While a standard deviation of 10.5. This table for easier could be help the write in written.

From the table above, the writer made it clearer the students' achievement in English was shown in the distribution of frequency as follows:

Table 14.

Frequency Distribution of Writing Ability Score.

No	Class Interval	Frequency	Percentage
1	55-60	2	0.074 %
2	61-65	3	0.111 %
3	66-70	11	0.407 %
4	71-75	3	0.111 %
5	76-80	5	0.185 %
6	81-85	1	0.037 %
7	86-90	1	0.037 %
8	91-95	1	0.037 %
Total		27	100 %

Further, the explanation of the description of students' achievement in English was shown in the figure 2:

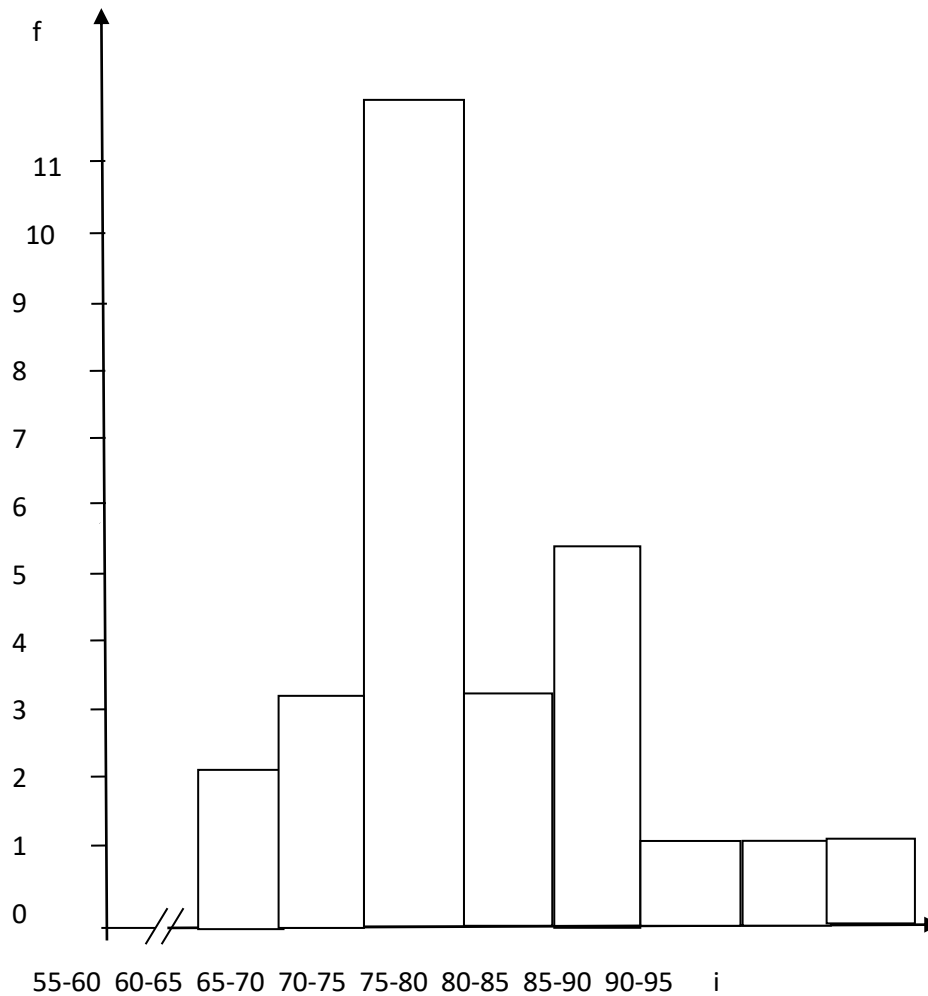


Figure .The Histogram of Writing Ability Score.

a) Strong : M (mean) + 1 SD to rank up (93)

$$71.3 + 1(10.5) = 81,8$$

$$= 82 \text{ to up } (93)$$

b) Medium: M (mean) - 1 elementary to middle ranking

$$71.3 - 1 (10.5) = 60.8$$

$$= 61 \text{ to } 81$$

c) Weak: lower rank.

Score 60 to under (55-60)

The categorization was shown in the following table:

Table 15.

Quality Score Writing Ability

Class Interval	Frequency	Percentage	Category
82 – 93	3	12%	Strong
61 – 81	22	81%	Medium
55 – 60	2	7%	Low
Total	27	100 %	

Based on the results of such categorization was known that the mean left and right brain of 71.3 were "medium".

B. The Hypotheses Testing

Hypothesis testing aims to determine the correlation between left and right brain to students' writing ability at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padagsidimpuan using the product moment formula. Before testing the hypothesis, first performed the calculation of the scores obtained by the respondents as the table below:

Table 16.

The correlation between left brain and right brain to students' writing ability at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padagsidimpuan

NO.	Initials of Respondents	Left and Right Brain (X)					Y
		5	4	3	2	1	
1	RD		√				70
2	AM	√		√			78

3	MH	√	√	√		√	66
4	AI		√			√	63
5	DS	√	√				68
6	AMH			√			66
7	SLN			√	√	√	69
8	ET		√		√		62
9	JT		√		√		55
10	AR	√	√				70
11	AG						70
12	FRI			√			67
13	DS		√	√		√	68
14	PIN					√	93
15	YEC			√	√	√	60
16	RR		√	√			61
17	TRS	√	√		√		72
18	CRC						77
19	SM	√		√	√		66
20	LS	√	√		√		73
21	ER			√		√	78
22	FW			√		√	82
23	EP		√	√		√	77
24	YN				√		73
25	IO					√	70
26	YO		√	√	√	√	88
27	LY		√	√			76
Total		7	14	14	9	11	1918

Table 17.

The calculation also can be seen on the following:

The Level of Involvement				
High				Low
5	4	3	2	1
Value				
66	70	67	72	66
68	66	61	60	63
72	68	66	62	69
78	70	78	55	93
73	68	72	73	68
70	72	88	88	60
66	73	76	66	78
	88	66	69	82
	76	69	73	72

	72	68		70
	81	60		88
	55	66		
	62	78		
	63	82		
Σ 493	964	997	618	809

From the table can be known:

$$Y_1 = 70.4 \quad Y_2 = 68.8 \quad Y_3 = 71.2 \quad Y_4 = 68.7 \quad Y_5 = 73.5$$

$$N_1 = 7 \quad N_2 = 14 \quad N_3 = 14 \quad N_4 = 9 \quad N_5 = 11$$

$$\Sigma Y = 3881 \quad \Sigma Y^2 = 277741 \quad NT = 54$$

$$S_y = \sqrt{\frac{\Sigma Y^2 - \frac{(\Sigma Y)^2}{NT}}{NT}}$$

$$= \sqrt{\frac{277741 - \frac{(3881)^2}{54}}{54}}$$

$$= 7.290$$

Table 18.

Below is the table for data of coefficient correlation Jaspens:

Tgt	Y _i	P	CP	O _b	O _a	O _b -O _a	$\frac{(O_b - O_a)^2}{P}$	Y _i (O _b -O _a)
5	70.4	0.12	0.12	0.2000	0	0.2000	0.04	14.08
4	68.8	0.26	0.38	0.3808	0.2000	0.1808	0.032	12.43
3	71.2	0.26	0.64	0.3741	0.3808	0.0667	0.000	-0.477
2	68.7	0.17	0.81	0.2714	0.3741	0.1027	0.010	-6.86
1	73.5	0.20	1.01	0	0.2714	0.2714	0.0736	-14.94

Σ					0		0.883	5.187
----------	--	--	--	--	----------	--	--------------	--------------

$$M = \frac{\Sigma(y_i)(O_b - O_a)}{(S_y) \Sigma \left(\frac{(O_b - O_a)^2}{P} \right)}$$

$$= \frac{5.187}{(7.290)(0.8834)}$$

$$= 0.8055$$

Value $M = 0.8055$ the meaning that the correlation between left and right brain to student's writing ability at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padagsidimpuan was positive and good.

Test statistic coefficient correlation Jaspren's (m):

$$r = (m) \sqrt{\Sigma \left[\frac{(O_b - O_a)^2}{P} \right]} \text{ with } db = RT - 2$$

$$= (0.8055) \sqrt{0.883}$$

$$= 0.756$$

The correlation between left and right brain to student's writing ability at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padagsidimpuan (The measure skala interval/ rasio) with total sample 27 gave the value Left and Right Brain was $M = 0.8055$ and value $\left(\frac{(O_b - O_a)}{P} \right) = 0.883$. Found out what is the correlation that significant or not at fact standard 5%.

The conclusion : Because r_0 left and right brain = 0.756 > $r_{0.05:25} = 0.396$, it received, this meaning that left and right brain there was significant correlation. So, hypothesis said that if H_1 = hypothesis can received and if H_0 = hypothesis can not received, but the result of this research was H_1 . So, there was correlation between left and right brain to student's writing ability and significant correlation also hypothesis can received.

C. The Discussion of Results

Based on the Data analysis above, it has proven that left and right brain gave significant correlation for writing ability, cognitive theory evidence left and right brain significant correlation for writing ability, because learn event someone not bound solely between response stimulus but engage cognitive theory. "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 analysis⁶⁸. While the right brain is random, irregular, intuitive and holistic⁶⁹. So, based defenition above researcher was made the conclude that left and right brain is the acctivity of physical and mental in writing that was often done and has become brain every time.

Recomended by McWhorter. Kathleen T says that "writing is an excellent means of monitoring and improving your comprehension and retention⁷⁰. Then according Hamps-Lyons 1990. Writing is personal act in which writers take ideas or prompts and transform them into "self-initiated" topics⁷¹. For the

⁶⁸As'adi Muhammad, p. 26.

⁶⁹Bobbi Deporter dan Mike Herracki, p. 38.

⁷⁰David Nunan,

⁷¹J. Michael O'Malley & Lorraine Valdez Pierce, p.136.

supporting that, it was proved by hypothesis of this research left and right brain meaning had the significant correlation to writing ability.

Result of the research also has evidence that cognitive theory support hypothesis in this research and the correlation between left and right brain to student's writing ability is true have significant correlation.

D. The Limitation of the Research

As it was the first time for the writer to conduct a research, the writer realizes that there were some mistakes and weaknesses that can be seen in this research. These weaknesses were caused by lacking of the references books, fund, and the ability of the writer in analyzing the data, writer time, also the writer knowledge. For those mentions above, the writer realized and asking apologies.

In spite of those weaknesses, however, the writer can make it as the first experience to do further research. Hopefully, this research might be as a reference for other researches in carrying out other research.

CHAPTER V

THE CONCLUSION AND SUGGESTION

A. The Conclusion

Based on the result analyzed data, the researcher concludes as follows:

1. Students' left and right brain at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padangsidempuan 2018/2019 academic year there was 54 students after mixed, 43 (80%) always used left and right brain, there were 11 (20%) never used left and right brain.
2. Students' writing ability at Grade X Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padangsidempuan 2018/2019 academic year was there was one of twenty seven students get score 93 it was highest score and 55 was lowest in Madrasah Aliyah Darul Ikhlas H.Abd. Manap Siregar Boarding School Goti, Padangsidempuan.
3. The result of the calculation based on the analyzed data show that ($r_0 = 0.756 > r_{0.05 : 25} = 0.396$), it means that hypothesis is accepted. It concluded that there was a significantly the correlation between left and right brain to students' writing ability in 2018/2019 academic year.

B. The Suggestion

Based on the conclusion and implication of the research that have been mention previously, the researcher offers some suggestion as follows:

1. English teacher should improve their English teaching and learning process especially in stimulation hemisphere brain.
2. The headmaster should give motivation to the teachers so that teaching and learning process can be improved.
3. Suggested to the next researchers of this study should be taken into consideration if you want to research about left and right brain to students' writing ability.
4. For the reader who wants to make the similar topic in future, the researcher suggests to make another variable that correlation between and right brain to students' writing ability.

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DAFTAR RANCANGAN ANGGARAN BIAYA PENELITIAN MANDIRI TAHUN 2019
KLUSTER PENELITIAN PENGEMBANGAN PROGRAM STUDI

PENELITI : Sojuangon Rambe, S.S., M.Pd.

Judul : The Correlation between Left and Right Brain to Students' Writing Ability at Grade X Madrasah Aliyah Darul Ikhlas H. ABD. Manap Siregar Boarding School Goti, Padangsidimpuan

NO	URAIAN KEGIATAN	Vol	Frek	Sat.	Harga (Rp)	Jumlah
A	PRA-KEGIATAN					
1	<i>Pengadaan ATK Selama Penelitian</i>					
	Kertas A4 Mirage 80 gram	1	3	Rim	40.000	120.000
	Tinta Hitam Printer	1	1	Btl	40.000	40.000
	Tinta Warna Printer	1	1	Btl	45.000	45.000
	Catrigt Canon Black	1	1	Bh	255.000	255.000
	Catrigt Canon Color	1	1	Bh	275.000	275.000
	Buku Agenda	2	1	Bh	40.000	80.000
	Stapler	1	1	Bh	25.000	25.000
	Anak Stapler	1	1	Ktk	10.000	10.000
	Stabilo	2	1	Bh	5.000	10.000
	Map Plastik	3	1	Bh	10.000	30.000
	Materai 6000	10	1	Eks	7.000	70.000
	CD-RW	4	1	Bh	10.000	40.000
						1.000.000
	PELAKSANAAN PENELITIAN					
2	<i>A. Pengumpulan Data Penelitian ke Lapangan</i>					
	Uang Harian dan Transportasi Survey Lokasi	3	2	OK	370.000	2.220.000
	Memperbanyak Instrument Penelitian	30	8	Eks	2.500	600.000
	Review Proposal	1	1	OK	600.000	600.000
	Uang Harian dan Transportasi Pengumpulan Data	4	4	OK	370.000	5.920.000
	Review Laporan Antara dan Hasil	1	1	OK	750.000	750.000
	<i>B. Analysis Data dan Penyusunan Laporan</i>					
	Penggandaan Laporan Mini/Excetive Summary	2	1	Eks	30.000	60.000
	Penggandaan dan Penjilidan Laporan Keuangan	2	1	Eks	75.000	150.000
	Penjilidan Laporan	10	2	Eks	70.000	1.400.000
						11.700.000
	PASCA PENELITIAN					
	<i>Publikasi Artikel Jurnal</i>					
3	Pengurusan Jurnal Terakrditasi	1	1	Ar	450.000	450.000
	Pengurusan HAKI	1	1	Ar	450.000	450.000

					900.000
	JUMLAH TOTAL				13.600.000

Keg: kegiatan
 OK: Orang per Kegiatan
 OJP: Orang per Jam Pelajaran
 OH: Orang per Hari
 OJ: Orang per Jam
 OR: Orang per Responden
 Eks: Eksamplar

Padangsidempuan, Juni 2019
 Peneliti,

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