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PERPUSTAKAAN
SURABAYA
IAIN SUNAN AMPEL

THE EFFECTIVENESS OF BRAIN GYM METHOD TO IMPROVE THE ENGLISH ACHIEVEMENT OF THE FIRST YEAR STUDENTS' IN MTsN KRIAN, SIDOARJO

THESIS

Submitted in partial fulfillment of the requirement for the degree of Sarjana Pendidikan Islam (S.Pd.I.) in teaching English

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APPROVAL SHEET

This thesis by (Azizatul Ummah) entitled (The Effectiveness of Brain Gym to Improve The English Achievement of First Year Students' in MTs N Krian, Sidoarjo) has been approved by the thesis advisors for the further approval by the Board of Examiners.

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ABSTRACT

Azizatul, Ummah. 2012. *The effectiveness of Brain Gym to improve students' English achievement among the first year students' of MTs N Krian, Sidoarjo.* (S-1 Thesis). Education of English Department, Tarbiyah Faculty. State Institute for Islamic Studies. Advisor: Prof.Arief Furqon, MA, Ph.D

Key Word: Brain Gym method, Traditional method, English achievement

This research is about English teaching in junior high school. The researcher wants to know is the Brain Gym method more effective than traditional method to improve students' English achievement among the first year students' of MTs N Krian, Sidoarjo. The aim of this research is to know the effectiveness of Brain Gym to improve students' English achievement among the first year students' of MTs N Krian, Sidoarjo. Brain Gym method was discover by Paul Dennisan and Gail E Dennison in the 1980.

The research design was experiment research with 72 students consist of 36 sample for experiment group and 36 sample for control group. Observation, pre test, post test, and interview was used to collect the data. Wilcoxon Matched Pair was used to analyse the data.

The result of this research is Brain Gym method more effective than traditional method because Z was -5,180. Asymp. Sig. (2-tailed) was 0,000. Because Asymp. Sig. lower than 0, 05. Therefore, there is significant difference between experiment group and control group in posttest.

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TABLE OF CONTENTS

COVER ..... **i**
APPROVAL SHEET ..... **ii**
APPROVAL SHEET……**iii**
MOTTO ..... **iv**
DEDICATION ..... **v**
ABSTRACT ..... **vi**
ACKNOWLEDGEMENT ..... **vii**
TABLE OF CONTENTS ..... **ix**
LIST OF TABLE ..... **xi**

CHAPTER I INTRODUCTION
A. Background of the Study 1
B. Research Question of the Study 3
C. Objective of the Study. 4
D. Significance of the Study 4
E. Scope and Limitation of the Study 4
F. Definition of key terms 5
G. Hypothesis. 5
H. Research Paper Organization 5

CHAPTER II THEORETICAL FRAMEWORK
A. Previous Study 7
B. Brain Gym 9
1. Definition of Brain Gym 9
2. The Function of Brain Gym 10
3. Brain Gym Movements 11
C. The Discussion of Achievement 18
1. Definition of Achievement 18
2. Measure students' Achievement 19
3. Factor That Influence Achievement 20

CHAPTER III RESEARCH METHODOLOGY
A. Research Design 27
B. Population 28
C. Sample 28
D. Setting of the Study 29
E. Procedure of the Study 29
F. Research Variable 36
G. Data and Source data 36

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H. Data Collection Technique 36
I. Research Instrument..... 37
1. Validity Instrument..... 37
2. Reliability Instrument..... 39
J. Data Analysis Technique 41

CHAPTER IV RESULT AND DISCUSSION
A. Result 43
1. Students Achievement by Brain Gym Method and Traditional Method…….43
a. Pretest……...43
b. Posttest…….45
2. The Comparison of Students Achievement between Traditional Method and Brain Gym Method (Wilcoxon Matched Pairs)…….46
B. Discussion 49

BAB V CONCLUSION
A. Conclusion 51
B. Suggestion..... 52

BIBLIOGRAPHY
APPENDIXES

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LIST OF TABLE

Table 4.1 Result of Instrument Validity..... 37

Table 4.2 The Result of Reliability Instrument..... 40

Table 4.3 the result of pretest and the mean score..... 44

Table 4.4 the result of posttest and the mean score 46

Table 4.5 the Result of Normality 47

Table 4.6 the Result of Output Analysis..... 47

Table 4.7 the result of Wilcoxon Signed Ranks Test 48

Table 4.8 the result of test statistics..... 49

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CHAPTER I

INTRODUCTION

This research focuses on the effectiveness of Brain Gym method to improve students' English achievement. This part discusses the background, the research question, the objective of the study, the significance of the study, the scope and limitation of the study, the definition of key terms, and the paper organization from this research.

A. Background of the Study

Junior high school students, especially from rural areas face major difficulties in learning English. They come from different backgrounds, and education. Based on the English teacher of MTS N Krian students hardly speak English outside the classroom. Instead, they speak in their mother tongue to their family members at home and to their friends in their communities. They do not like learning English because they think that English language is a very difficult subject and they do not have the interest to learn it.

According to Gunawan there are several factors that make students feel bored (1) Students do not have learning motivation (2) Students competence in understanding the lesson.[1] Students do not know the benefits from the lesson. It will close students think. This problem will affects the students' English achievement. Therefore, a teacher has to cooperate with other teacher to make

[1] Gunawan Adi, *Genius Learning Strategy* (Jakarta: PT Gramedia Pustaka Utama, 2012), 376

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students know the benefits of the lesson and want to study English well. This is the biggest work for teacher to find out activity, media and method that can improve students English achievement and suitable for them.

One of method that can be used for teacher is Brain Gym method. Brain Gym was created by Dr. Paul Dennison and Gail E. Dennison. Based on Dennison's discover there is correlation between development of body, mastery of language, and academic achievement. Brain Gym is a series of exercises designed to help students coordinate their brains and their bodies better. "Movement is the door to learning".[2] By several bodies movement from brain gym method learning will be enhanced because the left and right brain, front and back brain, top and bottom brain will be coordinated.[3] Therefore, this holistic approach can find balance between parts of the brain and the body. Meanwhile, "traditional teaching and learning concepts focus on the left brain right brain conflict".[4] Teacher focuses on left brain, ignores to utilize the right brain in the learning process.

English teacher in MTs N Krian still used traditional method to teach English. Traditional method means that they usually explain and ask to answer

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[2] Bruer. "Brain Gym" *Educational Kinesiology,* (http://www.skepdic.com/braingym.html, accessed January 11, 2012)

[3] Dennison, Paul E. and Gail E. Dennison, *Brain Gym* (California: Edu-Kinesthetics, Inc.1989), 30.

[4] Dennison, Paul E. and Gail E. Dennison, Brain Gym….30

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question during the class. Teacher just focuses on the left brain. Therefore Brain Gym method could be a method to improve students' English achievement.

Brain gym is one of enjoyable activity that can be used at start, end, or during the lesson. It is suitable for first year students because the movement of Brain gym looks like childish movement. It might be loved by first year students who are still in transition from childhood period. First year students still have basic knowledge about English language because every elementary school does not necessarily provide English language subject. They are new students in Junior High School which come from different school background. They still adapt with new friend, teacher, and environment. They need to enhance their knowledge and get support for their learning English well from the beginning.

Referring to the advantage of Brain Gym and the need to facilitate students' learning is worth conducting this research about "the effectiveness of Brain Gym to improve students' English achievement among the first year students' of MTs N Krian, Sidoarjo.

B. Research Question of the Study

From the background above, the research question of this study is "Is Brain Gym method more effective than traditional method in improving students' English achievement among the first year students' of MTs N Krian, Sidoarjo?"

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C. Objective of the Study

According to the research question above, the objective of the study is to know the effectiveness of brain gym to improve students' English achievement among the first year students' of MTs N Krian, Sidoarjo.

D. Significance of the Study

For researcher the result of the research is expected to give benefit that Brain Gym method is effective to teach English. For teacher, the result of this research can be used as a reference that brain Gym method is effective to improve students' English achievement. For reader, the result of this research can enrich knowledge about the effectiveness of Brain Gym method to teach English

E. Scope and Limitation of the Study

This study only focuses on investigating whether Brain Gym method more effective than traditional method in improving students' English achievement among the first year students' of MTs N Krian, Sidoarjo

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F. Definition of key terms

Brain Gym : Movement designed to help students coordinate their brains and their bodies better.[5] 12 movements used in this research.

Traditional method : Method that usually used in MTs N Krian. Teacher explains the lesson and asks to do the task.

English achievement : Improvement in English language skills; listening, speaking, reading, and writing by conducting test

G. Hypothesis

Ha: There is effectiveness of Brain Gym Method in improving the English students' achievement among first year students of MTs N Krian, Sidoarjo.

H. Research Paper Organization

The research paper organization entitled" The Effectiveness of Brain Gym to Improve the English Achievement among First Year Students of MTs N Krian, Sidoarjo" consists of five chapters.

CHAPTER 1 : Introduction it deals with the background of the study, the problem of study, the objectives of the study, the scope and limitation of the study, the significance of the study, the

[5] Dennison Paul-Dennison Gail, *Brain Gym* (Jakarta: Gramedia, 2009), 1

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definition of key terms, the hypothesis and the research paper organization.

CHAPTER II : Review of related literature. It consists of the previous researches, the review on Brain Gym, and the review of achievement. The review of Brain Gym consists of the definition of Brain Gym, the function of Brain Gym and the Brain Gym movements. The discussion of achievement consists of the definition of achievement, the measure of students' achievement, and the factors that influence achievement.

CHAPTER III: Research method, it consists of the research design, the population, the sample, the setting of the study, the procedure of the study, the research variable, the data and source data, the data collection technique, the research instrument, and the data analysis technique.

CHAPTER IV: The result and discussion. The result consists of validity instrument, reliability instrument, Wicoxon Matched Pairs, and discussion.

CHAPTER V : Conclusion and suggestion.

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CHAPTER II

REVIEW OF RELATED LITERATURE

This part discusses some issues related to the effectiveness of Brain Gym to improve students' English achievement and some previous studies. The issue covered include the definition of Brain Gym, the function of Brain Gym, the Brain Gym movement, the discussion of achievement, the factor that influence the achievement of learning.

A. Previous Study

Lilik Jumarsih under the title "The effectiveness of Brain Gym method to improve mathematics comprehends." She did the research on 22 May 2011 at SDN Sadang Taman Sidoarjo. She uses experiment quantitative research. She uses observation and test to collect the data. The result of this research, mean score in experimental group is greater than the mean score in the control group. She did the research on first year elementary school.[1] However in this research researcher uses observation, test, and interview to collect the data and do the research toward first year students of MTs N Krian, Sidoarjo.

Siti Afifah "Pengaruh Metode Brain Gym Terhadap Peningkatan Kecerdasan" She did the research on May 28th 2007 at TK Yaa Bunayya 2 Surabaya. She used correlation (descriptive quantitative) design. She used

[1] Jumarsih Lilik, thesis: *"The effectiveness of Brain Gym method to improve mathematics comprehends"* (Surabaya: State Institute Islamic Sunan Ampel, 2011)

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observation, interview, and documentation to collect the data. To analyze the data she used form of product moment to measure validity and reliability. The result of this research is Brain Gym method effect to improve intelligence.[2] Meanwhile, in this research, researcher uses experiment quantitative research. To collect the data researcher uses observation, test, and interview.

Nur Sa'idah "Efektivitas Brain Gym dalam mengatasi kejenuhan belajar (learning plateau) pada Mata pelajaran Pendidikan Agama Islam" She did the research on 16th January 2009 in SMP Negeri 3 Taman, Sidoarjo. She used quantitative research. Observation, interview, documentation, and questioner used in this research. The result is Brain Gym effective in overcome learning plateau.[3] The differences are dependent variable, location of the research, and research design.

Rendi Editya "Pengaruh Brain Gym Terhadap Kemampuan Bahasa Pada Anak Umur 2 - 3 Tahun di Pendidikan Anak Usia Dini Anyelir 12" She did research in Sukorambi village, sub district Sukorambi, Jember. Method used in this research was Quasy Experimental using Pre-Post Test randomized Control Group Design. The data were collected using questionnaires. The data were analyzed using the "Mann-Withney U Test" with SPSS 11.05 for windows

[2] Afifah Siti, thesis: *"Pengaruh Metode Brain Gym Terhadap Peningkatan Kecerdasan"* (Surabaya: State Institute Islamic Sunan Ampel, 2011)
[3] Sa'idah Nur, thesis: *"Efektivitas Brain Gym dalam mengatasi kejenuhan belajar (learning plateau)"*. (Surabaya: State Institute Islamic Sunan Ampel, 2009)

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software program. The results showed that there were significant differences between pre test and post test in the control group and experimental group.[4]

B. Brain Gym

1. The Definition of Brain Gym

Dr. Dennison and Gail E Dennison was the person who discovered Brain Gym method in the 1980.[5] They continue of research by developmental specialists who had been experimenting with using physical movement to enhance learning ability. They called their work Educational Kinesiology.

According to Dennison Brain Gym consist of movements and activities that easy and enjoyable[6]. Brain Gym method can be used at the beginning or ends of lessons or topics. It is safe and enjoyable. Brain Gym consists of simple movements. Brain Gym method useful in a classroom situation because it does not require sophisticated equipment or large areas. When student is allowed to use the body, it encourages the brain to make use of a variety of intelligences.[7]

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[4] Editya Rendi, thesis "*Pengaruh Brain Gym Terhadap Kemampuan Bahasa Pada Anak Umur 2 - 3 Tahun*". (Jember: stikes, 2009)

[5] http://www.braingym.org/history

[6] Dennison Paul-Dennison Gail, *Brain Gym* (Jakarta: Gramedia, 2009), 1

[7] http://igreen.tripod.com/gerpe/id29.html. accessed on 5 June 2012

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2. The Function of Brain Gym

There are benefits of this method.[8] Learn anything faster and more easily, perform better at sports, be more focused and organized, start and finish projects with ease, overcome learning challenges, Reach new levels of excellence. Therefore, the basic idea behind Brain Gym is by certain body movements the brain will develop, and learning will be enhanced.

According to MaryJo Wagner, children and adults use Brain Gym to help integrate body and mind by developing the brain's through movement. It's called whole brain learning. Use Brain Gym to improve: (1) Concentration and Focus. (2) Memory (3) Reading. (4) Writing. (5) Organizing. (6) Listening. (7) Physical coordination. (8) Project completion. (9) Learning. (10) Sports performance.[9]

Dennison describes brain functioning in terms of three dimensions.[10]

a. Laterality is the ability to coordinate one side of the brain with the other, especially in the visual, auditory, and kinesthetic midfield, the area where the two sides coordinate. This skill is the basic to the ability to read, write

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[8] Keith J. Hyatt, "Brain Gym Building Stronger Brains or Wishful Thinking?" *Remedial and Special Education.* Vol. 28, No. 2, March/April 2007, Pages 117–124.

[9] Wagner MaryJo, "Three Brain Gym® Movements to Help You Lower stress, Calm down, and Learn Anything Easily" *Brain Boosters for Your Kids*, (http://www.brainboostersforyourkids.com/freeBGguide.htm, accessed on July 26, 2012)

[10] Ibid, 28

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and communicate. It is also essential for whole body movement, and for the ability to move and think at the same time.

b. Focus is the ability to coordinate the back and front areas of the brain. It is related to comprehension, the ability to find meaning, and the ability to experience details. People without this basic skill are said to have attention disorders and difficulty in comprehend.

c. Centering is the ability to coordinate the top and bottom areas of the brain. This skill is related to organization, feeling and expressing one's emotions, a sense of personal space, and responding rationally.

From the description above Brain Gym method suitable for learning English language that should master four basic skills: reading, speaking, writing and listening.

3. Brain Gym Movements

In Brain Gym; there are 26 basic movements that are divided into three movements:[11]

a. The Middle Movement. This movement consists of 11 movements to integrate the left and right brain. With this movement, the ability of social and academic improved.

[11] http://www.healthyexerciseworld.com/brain-gym-exercises.html

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b. Lengthening Activities. There are 6 basic movements to integrate front and back of the brain. This movement serves to enhance the ability to focus and reduce stress.

c. Energy exercise and deepening attitude. This movement consists of nine movements to integrate the top and bottom brain. Useful for; balance emotions, feelings, and adaptation.

In this research, 12 movements was used as treatment that closely related with learning language:

i. **Cross crawls**

Cross crawl activates both of the brain together. It improves coordination, visual, auditory and kinesthetic ability and can improve listening, writing and memory. The steps to do Cross Crawls movement:

a) Stand with feet hip distance apart.

b) Think of your body as a big X brings your hands up and out if you would like.

c) Slowly bring one arm down and across while the opposite leg comes up to meet it. Twist the torso to get the most contact between the arm and opposite leg. Stay comfortable so as to not over stretch, but be as engaged as possible. You can think of the dance the twist if that helps.

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d) Change arm and leg. Remember to go slow because specific neurotransmitters are released, and integrated left and right brain hemisphere learning is better enabled. The slow contralateral movement activates speech and language centers in the brain. Coordination and balance are improved, and over time this slow movement may become easier and easier.

ii. **The thinking cap**:

The Thinking Cap activates brain for: listening, focusing attention, inner dialogue and thinking. The steps are:

a) Stand or sit comfortably.
b) Starting at the top of the ears, gently grab both ears between the thumb and pointer fingers. With just enough pressure to feel good, let the thumb slide up and out off of the ear before grabbing the next piece of ear directly below what was pulled. Slide the thumb off of the ear all the way down to the last part of the lobe, giving the whole outer ear a nice massage.
c) Repeat step 2, two more times or until it feels complete.

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iii. **The elephant**

This movement is designed to improve listening comprehension and attention, thinking ability recognition. Relaxed neck is needed in this movement to focus the eyes gently throughout the movement. The steps are:

a) Stand with feet hip distance apart.
b) You will be making the infinity symbol with one arm at a time. Rest your left hand on your hip. Bring the right arm straight up and touching the side of your head.
c) Your straight arm and head stay attached at the ear as you bring your arm in front and in the middle, perpendicular to your torso. Look at your middle finger and imagine a line extending straight out from it is tip.
d) Make a large infinity symbol with the extended hand, moving first up and to the left in a wide arc, down around to your center, then up to the right and around back to center. Move using your whole torso. With a soft focus notice the object furthest in the distance that your middle finger points to as it moves slowly and steadily through the infinity symbol. Do three infinity symbols with one arm before switching arms and repeating the entire exercise three more times.

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iv. **Hook-ups**

The exercise can be done while standing, sitting or lying down. Students cross the left ankle on the right one. Then they intertwine fingers and bring them near the chest. They close their eyes, breathe deeply for a few minutes and relax. Then students' free hands and legs and finger tips touch gently while they keep on breathing deeply. Hook-ups help mind and body relaxation.

v. **Calf Pump**:

This exercise can improve attention, concentration and ability to express and respond. The steps are below:

a) Stand facing a wall or solid flat structure. Lean toward the wall and place your hands flat onto the wall.
b) Bring the right leg back and have only the ball and toes of the foot in contact with the ground. Put your weight on your left leg and take a breath in.
c) Exhale for a count of eight as you bring your right heel down to the floor. Feel the stretch in your calf and only stretch as far as is comfortable. Relax and bring the heel back up off the ground.
d) Breathe in and repeat step 3, two more times with your right leg.
e) Repeat step 3, three more times with the left leg extended.

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vi. **Footlex**

This movement will assist in switching on the expressive verbal and written language areas of the brain. Bring foot up to opposite knee and grasp behind the knee, the calf and ankle as you slowly point and flex the foot. End by gently massaging the foot and toes with hand.

vii. Energy Yawn

Energy yawn is one of the Brain Gym exercises that relieves the stress that interferes with learning and performance.the steps are:

a) Stand, sit, or lay down face up.
b) Place the middle and pointer fingers of both the left and right hands on the left and right jaw muscles respectively. To find the jaw muscles you can first find the corner bone of the jaw that joins together, then move your fingers in a bit while pressing gently. When you feel tight muscle you know you're in the right place.
c) Rub your jaw muscles with just enough pressure to feel a massage while opening your jaw in a wide, long yawning motion. You may even feel yourself yawning as you do this, it's a natural response. Close the jaw gently after the long yawn.
d) Repeat step 3 two more times or until the movement feels complete.

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viii. Belly Breathing

This movementt improves expressive communication and attention span. The steps are:

a) Stand or sit comfortably.
b) Place your hands gently on your belly, right around your navel.
c) Take a long deep breath into your belly. Imagine your belly filling up, bottom first, all the way up to the top. You can imagine a pitcher being filled up with water.
d) Exhale for a count of eight. Imagine all of the air slowly being expelled.
e) Repeat steps 2 through 4, two more times or as desired.

ix. Positive Points

This movement helps relieve stress and improve memory. Touch the point above eye halfway between the eyebrow with fingertips of each hand. Close you eyes and breath slowly and deeply for a few seconds.

x. **Balance buttons**:

These buttons reestablish balance in every dimension: left-right, above-under, behind-before. The student massages the spot where the skull is attached to the neck and, at the same time, the navel. It improves the next learning skills: critical and decisional capacities, spelling accurateness.

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xi. **The active arm**

The active arm lengthens muscles in the upper part of chest and shoulders. When these muscles are contracted writing and tool controlling skills are inhibited. It activates the brain for: expressive reading, diaphragm relaxation and deep breathing, hand-eye coordination and tool controlling skills.

xii. **Double doodle**

This is a bilateral drawing activity which consists in sketching two images with both hands. It improves these learning skills: understanding of writing, spelling accurateness, Math calculations.

C. The Discussion of Achievement

1. Definition of Achievement

Achievement is education assessment about students' development and progress in relation with mastering subject's matter given to students and values in the curriculum.[12] Academicals achievement is originally constructed to asses the extent of an individual's knowledge about subjects taught in school.[13] In teaching and learning process that consist of teacher and students activities based on direct contact in educational situation to achieve certain

[12] Syaiful Bahri Djamarah, *prestasi belajar dan kompetensi guru* (Surabaya: Usaha Nasional, 1991),19

[13] Elizabeth Hall, *Psychology Today An Introduction 5th* (New York: Random House, 1983),46

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purpose which is written in curriculum. This process is one unity of activities that cannot be separated between students and teacher who teach the subject. Therefore the success of teaching and learning are depends on the harmonious interaction between students and teacher in the classroom and also good achievement.

Measuring students' achievement does not mean merely measuring their acquisition of the materials taught in class but more than that, it also measures them in terms of attitude, interest, and value toward the subject matter. In this research, achievement defined as the success gained by the students in their English class which refers to students' formative test scores in English subject.

2. Measure students' Achievement

In Indonesia, usually teachers administer students' achievement through school term examination as follows:

a. Formative Test

This type examination is held to administer students learning progress from time to time. Commonly, it is held in the end of chapter of material taught.

b. Summative Test

The examination is held to administer students' compulsory learning progress in the end of semester. Through this examination, teacher can measures students' mastery of all material taught, teacher also can

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investigate the effectiveness of teaching and learning strategies already applied to make consideration and improvement for the next teaching and learning activities.

3. Factor That Influence Achievement

According to Lisa there are several background factors that influence student achievement, home and educational background, attitude, engagement, motivation, and beliefs, learning strategies and preferences, the learning environment. [14]There are some factors that create differential among language learners:

a. Internal Factors

The internal factors are the factor that come from the students them selves.

i. Age

Ability in learning a second language shows that the foreign language program should be started in elementary school, but experts stated that the most important favt is the timing. There are several cases showed those who started learning in adult will understand better in the instruction and lesson given by teacher.[15]Therefore age ha influence on language learning achievement.

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[14] Lisa De Bortoli - Sue Thomson., *Contextual factors that influence the achievement of Australia's Indigenous* (Victoria: ACER Press, 2010), 2

[15] Diane larsen-Freeman and Michael H. Long, *An Introduction to second langage Acquisiton Research,* (New York: Longman, 1990), 205-207

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ii. Aptitude

Aptitude is not easy to define. It is usually defined in terms of the test that have been used to measure.[16] According to Carol language is relatively fixed over long periods of an induvidual life span, and relatively hard to modify in any significant way.[17] It means that language aptitudeis influenced by enduring characteristics of individual itself for long times and it is difficult to change in short time.

iii. Social Psychology

a) Motivation

In second language learning Brown states that there are two different motivation: integrative and instrumental motivation. The integrative motivation is employed when a learner integrates him/herself become part of culture and society of second language group. Instrumental motivation refers to motivation to acquire a language as means for attaining instrumental goals: a career, reading technical material, translation.[18]

b) Attitude

Attitude is aspects of the development of cognition and affection of human beings. It develops in childood and result of

[16] Ibid, 207
[17] Ibid, 167
[18] H. Douglas brown, *Principles of Language learning and Teaching*, (New Jersey: Prentice Hall, 1990), 114

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parents' and peers' attitude, contact with different people. These attitudes form part of someone's perception, other cultures in which someone is living.[19]the role of attitude here is the attitude group of cultural influence in the process of mastery language learning.

c) Personality

Wong Fillmore in larsen Freeman and Long observed that shy children progress more rapidly than more outgoing children in classrooms which more teacher oriented and stuctured, rather than otiented towards group activities.[20]Thus, the personality has impact on the success of language learning.

d) Cognitive Style

The word cognitive style is closely with personality, the preferred way in which individuals process information or approach a task. Harnett and Larsen Freeman and long states that most of research in the field of cognitive types share motif an which the research in the field or personality, which is set interaction effects between cognitive styles and instructional practice.[21]Most of teachers will not find themselves in situation where students can be streamed according to particularcognitive style.

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[19] Ibid, 127

[20] Diane larsen-Freeman and Michael H. Long, *An Introduction to second langage Acquisiton Research,* (New York: Longman, 1990), 205-207

[21] Ibid, 211

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Therefore, a reasonable alternative might be to iversity language instruction as much as possible basad on the variety of cognitive styles represented among the students.

e) Learning Strategies

In learning strategies, students have to lear how they do for themselves what is usually done for those teachers in the classroom. Our efforts to help the students by improving in language skill must be equipped with a balance systematic approach to develop and refine skills they have to learned.[22]

b. External Factors

External factors are those come from environment. Such as:

i. Parents

a) Parents' Education

In the family every people or student need attention from her/his parents to reach her/his learning achievement.[23] Parents will determine whether students can reach high learning achievement or not. Parents care is shown by affection, advices. Parents who don't care enough to their children learning achievement will become the cause of students learning difficulties. Children need parents' guidance to learn about responsibility. Learn without parents' guidance make students feel difficult in learning.

[22] Ibid, 212
[23] Ibid, 214

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b) Relationship between parents and children

In the family there must a good relationship between parents and children. It will occur peacefulness.[24] It can create good learning condition so students learning achievement can be created well. Less of parents' affection occur emotional insecurity. A child will feel difficult in learning if he/she gets less affection from her/his parents.

c) Economic Condition

Economic level that categorize as poor family make parents can not prepare enough learning tools for their children and even make students can not get a good education place.[25] It will become inhibitor for children to learning well and increase learning achievement. But economic level that categorized as reach family sometimes give negative impact for students learning achievement too. Because of their parents' wealth, they become lazy to study and always be extravagant and forget their duty to study seriously.

d) Home Condition

Home condition that very crowded make children can not learn well. Their concentration will be disturbed by the noise so they will feel too hard to study.

[24] Ibid, 216
[25] Ibid, 219

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ii. School

a) Teacher

Teacher is one of school environmental factors who has important role to increase students learning achievement. Teacher is a subject in education who has duty to transfer the knowledge to the students.[26] So, a teacher has to able to master the topic that will be transferred and can explain it well and control class condition. Teacher will become source of learning difficulties if he/she does not fulfill the requirement as an educator.

b) Learning Media

The lack of learning media makes the learning process become ineffective especially practicum subject. The lack of laboratory tools will be occur students' difficulties in learning so teacher use lecture method that make student become passive and it possible to hamper students learning achievement.

c) Infrastructure

The condition of infrastructure is refers to class room. The room has to be comfortable to learn so that students can concentrate in learning. The classroom that is not comfortable for example dark or sultry will break students concentrate so the learning process will not running well.

[26] Ibid, 220

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d. School Time and Discipline

The best time for learning process is in the morning because students condition still optimal in the morning.[27] If learning process is in the afternoon, students' condition is not optimal anymore to learn. Besides that discipline also give influence for students learning achievement.

[27] Ibid, 223

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CHAPTER III

RESEARCH METHOD

This study was investigated the effectiveness of Brain Gym Method to improve students' English achievement. The discussion of this chapter elaborate research design, population and sample, setting of the study, procedure, research variables, data sources, data collection technique, research instrument, data analysis technique.

A. Research Design

Research design is the plan of the research that will be conducted.[1] This research will be well achieved if the experiment design is used because the purpose of the experimental research is to investigate the possible cause-and-effect relationship by manipulating one independent variable to influence the other variable. By manipulating the independent variable it can be seen if the treatment makes a difference on the subject. Therefore this research categorized as quantitative (true) experiment research because the purpose is to know the effectiveness of brain gym to improve students' English achievement among the first year students' of MTs N Krian, Sidoarjo. With this design, the subject of the research will be divided into two groups. The first is experiment group and the second is control group. To know if the experiment group and control group have

[1] Suharismi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktek* (Jakarta: PT. Rineka Cipta, 2006),51

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same level, pre test conducted. Treatment gives to the experiment group. At the end of meeting posttest administered to both experiment group and control group to know the difference English achievement of two groups. The role of the researcher was additional teacher to practice Brain Gym method.

The experiment design is described as follows

Group	Pre test	Treatment	Posttest
Experiment (Brain Gym)	O1	X	O2
Control (Traditional Method)	O1	-	O2

B. Population

Population is a group of object that will be the target of the research.[2] Population of this research is all of first year students of MTS N Krian the number of population was 360 students.

C. Sample

Sample is group of people that will be respondent.[3] Cluster random sampling was used to decide the sample. There are 10 classes of first year students. Two classes, VII D and VII E, were selected because they have same level in their achievement. Every class consists of 36 students. It means 20% was a sample so the subject consists of 72 students. Students who sit in VII D were the experiment group. Students who sit in VII E were the control group.

[2] Bungin Burhan, *Metodologi Penelitian Kuantitatif,* (Jakarta: Kencana Prenada Group, 2008), 99
[3] Sugiyono, *metode penelitian kuantitatif kualitatif R&D,* (Bandung: alfabeta, 2010),81

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D. Setting of the Study

The research was conducted from July 17 2012 – August 11 2012 at MTs N Krian that is located on Junwangi Street Krian.

E. Procedure of the Study

Research procedure is a series of research process.[4] The procedure of this research was described below.

Time	Experiment Group	Control Group
July 21 and July 24	• T gives warming up activity, and *give treatment (the middle movement)* • T ask sts to listen and complete the dialogue • T ask sts to identify some responses for formal and informal greeting • T correct the wrong answer	• T gives warming up activity • T ask sts to listen and complete the dialogue • T ask sts to identify some responses for formal and informal greeting • T correct the wrong answer
July 28 and July 31, 2012	• Pre activity and *give treatment (Energy exercise and deepening attitude)* • T ask sts to practice dialogue	• Pre activity • T ask sts to practice dialogue with their partner • T ask sts to answer the

[4] Narbuko cholid – Achmadi Abu, *Metodologi Penelitian* (Jakarta: PT Bumi Aksara, 2009), 57

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	with their partner • Task sts to answer the question orally • In pairs, write short dialogues. Use the formal and informal greeting expressions. Then practice them. • T ask to fill in the blanks based on the example.	question orally • In pairs, write short dialogues. Use the formal and informal greeting expressions. Then practice them. • T ask to fill in the blanks based on the example.
July 4 and August 7, 2012	• T gives warming up activity and gives treatment (Lengthening Activities) • T ask to read the text • T ask to do the exercise "arrange the jumble sentence into correct paragraph" • T correct the wrong answer • T ask to write greeting card.	• T gives warming up activity • T ask to read the text • T ask to do the exercise "arrange the jumble sentence into correct paragraph" • T correct the wrong answer • T ask to write greeting card.
August 11, 2012	Posttest	Posttest

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The schedules of the research were presented in the following table.

No	Date	Treatment
1	July 17th 2012	Pre test
2	July 21st 2012	Thinking Cap and Cross Crawl
3	July24th 2012	The Elephant and Hook Ups
4	July 28th 2012	Calf Pump and Footlex
5	July31st 2012	Energy Yawn And Belly Breathing
6	August 4th 2012	Positive Points and Balance Button
7	August 7th 2012	Double Doodle and Arm Activation
8	August 11th 2012	Pos test

1. The Treatment

a. Experimental Group by Using Brain Gym Method.

According to the result of pretest, the students could not achieve minimum score (KKM= 70), to solve the problem the treatment conducted by researcher. The treatments were conducted twice a week. Therefore, there are 6 meeting for the treatment.

i. First Treatment

The first treatment was conducted on July 21 2012. The lesson was started by pre activities: pray together, check the students absent,

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review the last lesson, and Brain Gym method (*Thinking Cap, Cross Crawl*). Researcher introduces Brain Gym movements and the benefit of Brain Gym movement to the students. Then, researcher practice *Thinking Cap* movement in front of the students. For the first time the students got Brain Gym movements. A student (BP), who sits in the corner, does not follow the movement, but after he looks at his friends he wants to practice *thinking Cap* movement. After students could practice the movement the researcher continue to the next movement was Cross *Crawl* movement. It seems like childish movement, the students feel happy during do the Brain Gym movements. The treatment did about 15 minutes in the start of the lesson. The two movements, *Thinking Cap* and *Cross Crawl*, could improve listening and speaking skill. For this meeting, the material was about listening skill. Students more active follow teacher's instruction than before.

ii. Second Treatment

Second treatment was conducted on July 24 2012. The lesson was started by pre activities: pray together, check the students absent, review the last lesson, and Brain Gym method (*The Elephant* and *Hook-Ups*). The researcher gave the *Elephant* movement. All of the students follow the elephant movement. The researcher repeats the Elephant movement twice. Students can do the movement by their selves. Then,

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researcher gave Hook-Ups movement. For this movement, there are 2 steps. Students feel confused to do the steps. Students more easily follow the movements. They more enthusiast practice the movement in their chair. The teacher continues the lesson about listening skill.

iii. Third Treatment

Third treatment was conducted on August 28, 2012. The lesson was started by pre activities: pray together, check the students absent, review the last lesson, and Brain Gym method (*Calf Pump* and *footflex*). The researcher gave *Calf Pump* and *footflex* to the students. After giving treatment *Calf Pump* and *Footflex*, several students know what they should do to repeat the movement. The teacher continues the lesson about speaking skill. Teacher explained about formal and informal greeting and asks to practice with their friends. Most of the students can do this assignment well. In the end of the lesson the teacher gave homework to write short dialogue about greeting.

iv. Fourth Treatment

Fourth treatment was conducted on August 31, 2012. The lesson was started by pre activities: pray together, check the students absent, review the last lesson, and Brain Gym method (*Energy Yawn and Belly Breathing*). The researcher practice *Energy Yawn and Belly Breathing* in

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front of class while the students keep attention to the researcher. Then, practice *Energy Yawn and Belly Breathing* together until they can do the movements perfectly. Teacher controlled students' homework and gave score. Most of the students did their homework well. She continues the lesson, she explains about the rule of to be is, am, and are.

v. Fifth Treatment

Fifth treatment was conducted on August 4, 2012. The lesson was started by pre activities: pray together, check the students absent, review the last lesson, and Brain Gym method (*Positive point* and *Balance Button*). The researcher gave treatment *Positive point* and *Balance Button* movements. After giving the treatment researcher asks MR to come forward to practice the movements in front of their friend. MR could practice the movement perfectly. Teacher continued the next material about reading. Teacher read the text and then students repeat what teacher said. Teacher asks MM to read the text. There were several words that he could not pronounce but he tries to repeat again and he could pronounce well. Teacher asks to do the reading exercise.

vi. The last Treatment

The last treatment was conducted on August 7, 2012. The lesson was started by pre activities: pray together, check the students absent,

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review the last lesson, and Brain Gym method (*Double Doodle* and *Arm Activation*). For the last treatment, the researcher gave *Double Doodle* and *Arm Activation* movements. The students are used to doing Brain Gym movements. The students already feel the benefits of Brain Gym Movements. They are addicted to doing it again when the time is over.

b. Control Group by using Traditional Method

Control group got the treatment but it does not Brain Gym movement. The material that delivered to control group was the same as experiment group. The teacher was same as experiment group. The difference was on the treatment. For control group, researcher does not treat Brain Gym movement.

Traditional method, the teacher used the old method that usually used by English teacher without Brain Gym method. The teacher gives material to the students based on the book. The students just received what the teacher's explanation without any activities that coordinate right brain and left brain as like Brain Gym movement. So the students could not activate the right brain.

Each group gave the difference treatment to know the result whether the alternative method is effective or not in improving the English achievement. Therefore in each group held posttest to answer the research problem is Brain Gym method more effective than traditional method in improving students' English achievement.

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F. Research Variable

"The independent variable is variable that influence dependent variable".[5] In this study Brain Gym method is independent variable while students' English achievement is the dependent variable.

G. Data and Source Data

The data for this research are data related to the students' English achievement. The data needed for this research was collected from teacher and students of MTs N Krian.

H. Data Collection Technique

Data of this study was collected through pre test, post test, observation, and interview to collect the data.

1. Pre test and post test

   It was used to know the difference comprehend between experiment group and control group. Pre test was conducted on first meeting. Post test was conducted at the end of meeting. Pre test and post test was given to both of groups.

[5] H. James mcmillan, *Education Research: fundamental for the consumer* (New York: Harper Collins publisher, 1992),22

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2. Participant observation was conducted to both groups to know students attitude during learning process.
3. Interview designed to find out the English teacher opinion about Brain gym method and share about lesson plan and students problem.

I. Research Instrument

Instrument is the measurement tool in the research for knowledge, skill, feel, intelligence, or attitudes.[6] The research instruments used to carry out the research is the test. The form of test is multiple choice items because it is easy to score and administer. In scoring the objective test, each correct answer is counted 3 point using while thewrong answer is zero point. There was 30 questions. Therefore, the highest score is 90, where 30 x 3 = 90.

1. Validity Instrument

The researcher used SPSS 11.5 to analyze instrument validity. The result of analysis instrument validity as follow:

Table 3.1

Result of Instrument Validity

No	Item	Corrected item-total Correlation	Dk=70
1	Item 1	0,2579	0,235
2	Item 2	0,2532	0,235

[6] Sumanto, *Metodologi Penelitian Sosial dan Pendidikan* (Yogyakarta: PT Andi Offset, 1995), 57

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3	Item 3	0,2480	0,235
4	Item 4	0,2383	0,235
5	Item 5	0,2388	0,235
6	Item 6	0,[illegible]	0,235
7	Item 7	0,3592	0,235
8	Item 8	0,2537	0,235
9	Item 9	0,2435	0,235
10	Item 10	0,2534	0,235
11	Item 11	0,2465	0,235
12	Item 12	0,2639	0,235
13	Item 13	0,2945	0,235
14	Item 14	0,2709	0,235
15	Item15	0,2885	0,235
16	Item 6	0,3650	0,235
17	Item 17	0,2708	0,235
18	Item 18	0,3133	0,235
19	Item 19	0,3510	0,235
20	Item 20	0,3259	0,235
21	Item 21	0,4366	0,235
22	Item 22	0,4071	0,235
23	Item 23	0,4308	0,235

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24	Item 24	0,6430	0,235
25	Item 25	0,4374	0,235
26	Item 26	0,3818	0,235
27	Item 27	0,4089	0,235
28	Item 28	0,3684	0,235
29	Item 27	0,5563	0,235
30	Item 30	0,6134	0,235

From the data above can be considered that the instrument is valid for all items. Where r hitung> r table with used 5% taraf significance.

2. Reliability Instrument

Reliability instrument is instrument which is used many times to measure the same object and will produce the same result of data.[7]Reliability of test is needed because the test can be used for another sample if it s reliable. SPSS 11.5 for windows was used to analyze in order to know the reliability of test. The result of analyze for reliability of test, as follows:

[7] Sugiono, *Metode penelitin Kuantitatif Kualitatif dan R & D*... 173

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.Table 3.2

The Result of Reliability Instrument

No	Item	Alpha if Item Deleted	Dk=70
1	Item 1	0,6304	0,235
2	Item 2	0,6233	0,235
3	Item 3	0,6332	0,235
4	Item 4	0,6230	0,235
5	Item 5	0,6326	0,235
6	Item 6	0,6322	0,235
7	Item 7	0,6114	0,235
8	Item 8	0,6211	0,235
9	Item 9	0,6222	0,235
10	Item 10	0,6340	0,235
11	Item 11	0,6221	0,235
12	Item 12	0,6242	0,235
13	Item 13	0,6267	0,235
14	Item 14	0,6199	0,235
15	Item15	0,6362	0,235
16	Item 6	0,6093	0,235
17	Item 17	0,6351	0,235
18	Item 18	0,6143	0,235

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19	Item 19	0,6319	0,235
20	Item 20	0,6146	0,235
21	Item 21	0,6332	0,235
22	Item 22	0,6370	0,235
23	Item 23	0,6037	0,235
24	Item 24	0,6323	0,235
25	Item 25	0,6320	0,235
26	Item 26	0,6381	0,235
27	Item 27	0,6086	0,235
28	Item 28	0,6571	0,235
29	Item 27	0,6396	0,235
30	Item 30	0,6491	0,235

The table above showed that r hitung>r table. For Example, Item 1 alpha = 0,6304, r table = 0,235. It means that 0, 6304>0,235. Koefisien sum of alpha = 0,6358 (attached). It means that r hitung > r table.

J. Data Analysis Technique

Statistics analysis was used to analyze the data. The data was analyzed through statistical software, the SPSS 11.5 statistics. Wicoxon Match Pairs was used to find out the mean scores between experiment group and control group

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was analyzed to determine whether there is a statistically significant difference in the students' English achievement between experiment group and control groups. The students' score was analyzed statistically by using formula:

Form:

$$Z = \frac{T - \frac{n(n+1)}{4}}{\sqrt{\frac{n(n+1)(2n+1)}{24}}}$$

Form

$$Z = \frac{n_1 - n_2}{\sqrt{n_1 + n_2}}$$

Where:

n_1 = Sum of positive rank

n_2 = Sum of negative rank

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CHAPTER IV

RESULT AND DISCUSSION

This chapter was described and discussed the result gained from the statistical calculation by SPSS 11.5 for windows. This chapter was divided into two parts: the result of validity and reliabilty instrument, the result of pre test and post test of experiment group and control group, and discussion. In the first part of this chapter, the researcher was show the result of the calculationn pre test and the calculation of post test.

A. Results

1. Students Achievement by Brain Gym Method and Traditional Method

a. Pretest

Brain Gym method was used to improve the English achievement of the first year students' in MTs N Krian, Sidoarjo. This study was conducted to find out whether there is a significant difference between the students who are taught using Brain Gym method and who are taught without using Brain Gym method. The data showed the score is different from pretest and posttest of experimental groups and control groups.

Pretest was conducted to both of groups: experiment group and control group on 17 July 2012. The aim of this part is to find out the improvement in the pretest and posttest score of the experimental and the

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control groups. The data were collected from the pre test and post test of the both of groups. There were several steps to analyze the data. First, the score of the pretest and posttest of experimental and control groups was put by researcher in the table. Second, the score of pretest and mean was calculated by researcher. The result of the experimental and the control group will be described in the following table.

Table 4.1

The result pretest score of experiment and control groups.

Group	N	Score	Mean
Experiment (Brain Gym)	36	2157	59.9
Control (Traditional Method)	36	2127	59.0

The table showed that the score of the pretest for experiment group was 2157 and 2127he control group. While, the mean scores of the pretest experiment group was 59.9 and the control group were 60. It means that the students of the two groups have slight difference of ability before the treatments were given.

Pretest was attended by experiment and control group on 17 July 2012. All of the experiment and control group were present. Many

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students got difficulties during do the test. It affects to the result of test. Many students could not achieve the minimum score (KKM=70).

After giving pretest, the researcher gave treatment through the experiment group and control group. For the experiment group, the researcher used Brain Gym method while for the control groups did not use Brain Gym.

b. Posttest

The end of meeting, 11 August 2012, posttest was conducted to both of groups. The purpose of posttest was to know whether there were improvements in the students' English achievement in experiment group by using Brain Gym method. Each group gave the difference treatment to know the result whether the alternative method is effective or not in improving the English achievement. Therefore in each group held posttest to answer the research problem is Brain Gym method more effective than traditional method in improving students' English achievement. The result of the posttest score and mean of the experimental and control groups were presented in the following table.

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Table 4.2

The Posttest score of experiment and control group.

Group	N	Score	Mean
Experiment (Brain Gym)	36	2820	78.3
Control (Traditional Method)	36	2148	59,6

The table above showed that the sum of the posttest scores was 2820 for the experiment group and 2148 for the control group. While the mean of post test of the experiment group was 78. 3 and the control group was 59, 6. It means that experimental groups higher than control group.

From the result posttest scores of experiment and control group we can see that the experiment group score was higher than control group. Then, the researcher calculated the result of posttest scores of experiment group by using Wilcoxon Matched Pairs to know whether it was significant or not.

2. The Comparison of Students Achievement Between Traditional Method and Brain Gym Method (Wilcoxon Matched Pairs)

The type of data in this research is ratio. T-test analyze will be planed if the assumption was fulfilled. One of the assumption that must be fulfilled to

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use t-test as parametric analyze is normal distribution. The result test of normality was presented in the following table.

Table 4.3

The Result of Normality

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Control	,161	36	, 018	,944	36	, 069
Experiment	, 241	36	, 000	, 870	36	, 001

a. Lilliefors Significance Correction

From the table above post test of control group score Sig. was 0,018 and post test of experiment group score Sig. was 0,000. It means that the score of experiment group lower than 0, 05. It can be concluded that the data of two variables test distributions abnormal.

In this research could not use t-test analysis. Wilcoxon analysis was used to know whether significant or not. The result of output analysis was presented in the following table.

Table 4.4

The Result of Output Analysis

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Control	36	59, 9167	6, 39364	48, 00	75, 00
Experiment	36	78, 3333	3, 56971	69, 00	84, 00

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From the output above can be seen that the mean of control group was 59, 9167. Meanwhile the mean experiment group was 78, 3333. It means that the scores of experiment group higher than control group. The result of Wilcoxon Signed Ranks Test was presented in the following table.

Table 4.5

The Result of Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Control - Experiment	Negative Ranks	0 [a]	,00	,00
	Positive Ranks	35 [b]	18,00	630,00
	Ties	1 [c]		
	Total	36		

a. Experiment < Control

b. Experiment > Control

c. Experiment = Control

From the output above can be seen that negative ranks was zero, no one in control group higher than experiment group. Positive ranks was 35, there are 35 students that experiment group higher than control group. Ties were 1, there is one student of control group has the same score with experiment group. The result of test statistics was presented in the following table.

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Table 4.6

The Result of Test Statistics

Test Statistics[b]

	Experiment Control
Z	-5,180[a]
Asymp. Sig. (2-tailed)	,000

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

From the table above Z was -5,180. Asymp. Sig. (2-tailed) was 0,000. Because Asymp. Sig. < 0, 05. Thus, the null hypothesis is rejected. It means that there is significant difference between control group and experiment group in post test. After having completed several treatments, the experimental group was improved. This finding supports the research hypothesis that Brain Gym method is effective in improving students' English achievement.

B. Discussion

This research is about the effectiveness of Brain Gym method to improve the English achievement. The purpose of this research was to examine whether or not Brain Gym method is more effective than traditional method in improving the English achievement. This research uses experiment method. two classes, VII D and VII E, was the sample of this research. VII D was experiment group while VII E was control group.

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Experiment study was conducted eight meeting. On the first meeting the pretest was conducted for both class VII D and VII E. On the second meeting until seventh meeting, treatment was conducted to both of group experiment and control group. The treatment Brain Gym method was conducted in the experiment group. The students follow the Brain Gym movement and practice by their selves. On the last meeting posttest was conducted on two classes, VII D and VII E. the aim of this test is to know the effectiveness of brain gym to improve students' English achievement.

The statistical computation of post test of the experiment group and control group by using SPSS 11.5 for windows demonstrated that the data distribution of post test control group and experiment group were abnormal. Because control group score Sig. was 0,018 and experiment group score Sig. was 0,000. It means that the post test of experiment group score < 0, 05. So Wilcoxon matched pairs used to analyze the data.

Z was -5,180. Asymp. Sig. (2-tailed) was 0,000. Because Asymp. Sig. < 0, 05. Thus, the null hypothesis is rejected. There is significant difference between control group and experiment in post test. After having completed several treatments, the experiment group was improved. This finding supports the research hypothesis that Brain Gym method is effective in improving students' English achievement.

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BAB V

CONCLUSION

This research study is about the effectiveness of Brain Gym method to improve the English achievement. This chapter is intended to elaborate the conclusion and suggestion. It includes the explanation of the effectiveness of Brain gym method in improving English achievement.

A. Conclusion

Based on the result of data analysis, it can be concluded that the result of Brain Gym method is effective to improve the English achievement. The statistical computation Wilcoxon Matched Pairs was used to analyze the data.

Z was -5,180. Asymp. Sig. (2-tailed) was 0,000. Because Asymp. Sig. lower than 0, 05. Thus, the null hypothesis is rejected. There is significant difference of post test score between control group and experiment group. After having completed several treatments, the experimental group was improved. Therefore, the researcher concluded that Brain Gym method is more effective than traditional method.

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B. Suggestion

Some suggestion for teaching and learning English are for other researcher who want to accomplish further research, it would be better to conduct the longitudinal research, to different subject and location. . In order to strength the previous findings. Furthermore, for the teachers who use the strategy in the classroom, they should monitor the students when they practice Brain Gym method in order to encourage the students to be more successful in English achievement.

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