

CHAPTER II

REVIEW OF RELATED LITERATURE

This part discusses some issues related to the Brain Gym to improve students' speaking skill. The issues covered include the definition of Brain Gym, the function of Brain Gym, the Brain Gym movement, the discussion of speaking skill, the definition of speaking, the types of speaking, and the speaking measurement, and some previous studies.

A. Brain Gym

1. The Definition of Brain Gym

The using of brain research in education must be done because it is a requirement, besides that education has a purposed to optimize the using of brain.⁹

The maintenance of brain can be done by structurally and functionally, the maintenance of brain structurally needs supply of bloods, oxygen, and energy, while the maintenance of brain functionally can be done by many kinds of teaching process, as like movement learning, remembering learning, feeling learning and others.¹⁰

Those kinds of learning process always stimulus brain center and in brain center there are centers that manage the body functions. One of the results for maintenance of brain functionally is by movement learning as known with brain gym.

⁹ Barbara K. Given, *Brain Based Teaching*. (Bandung; PT. Mizan Pustaka, 2007), cet ke 2, 29

¹⁰ Paul E. Dennison dan Gail E. Dennison, *Brain Gym*, (Jakarta: PT. Grasindo, 2004),54

Brain gym is known as a unique approach in education sector, Paul E. Dennison, Ph.D. is the creator of brain gym, he is an educator in southern California, his discovery of brain gym is based on his knowledge about too close relationship among physical development, language comprehension, communication skill, and academic achievement.¹¹

Here are some definitions of brain gym according to specialists;

- a. The main figure of brain gym, Dr. Dennison and Gail E Dennison, stated that Brain gym is a combination of interesting activities that used to improve students' ability by optimized all dimension of brain.¹²
- b. According to M. Masykur Ag and Abd. Halim Fatani brain gym is a simple movement exercise unit that involve some significant point that directly related to the brain nerve that has a function to make easier in breathing, make blood circulate more fluent and refresh the brain.¹³

So brain gym is a simple and interesting activities that is used to improve students' ability by optimizing all dimensions of brain.

Brain gym that is created by Dr. Dennison and Gail E Dennison has a purpose to help students can use all learning potential through body movement and touching, as like reading ability, writing ability, speaking ability, and thinking competent. Basic concept of brain gym are ;

¹¹ Paul E. Dennison dan Gail E. Denisson, *Brain Gym : Buku Panduan Lengkap*, (Jakarta: gramedia, 2009), cet, Ke-13, 1

¹² Ibid

¹³ M. Masykur Ag and Abd. Halim Fatani, *Mathematical Inteligence, Cara Cerdas Melaih Otak Dan Menanggulagi Kesulitan Belajar*, (Jogjakarta; Ar Ruzz Media, 2007), cet. Ke-1, h.5

- a. Learning is natural and interesting activities that happen in lifetime
- b. The learning difficulties are a disability in avoiding stressed and doubting in facing a new task
- c. We all are facing “learning difficulties” while we have learned to not do movement.¹⁴

2. The Function of Brain Gym

According to MaryJo Wagner, children and adults use Brain Gym to help integrate body and mind by developing the brain 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.¹⁵

As like Paul E. Dennison and Gail E. Denisson's explanation, human's brain is like hologram, there are three dimensions with parts connected one and others as a unit. The dimensions are; a)literality dimension, for part of right and left brain; b) focus dimension, for part of back brain (brainstem) and front brain (frontal lobes); c) centre dimension, for midbrain and big brain

¹⁴ Paul E. Dennison dan Gail E. Denisson, *Brain Gym : Buku Panduan.....*3

¹⁵ 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 mey 5' 2013)

(cerebral cortex).¹⁶ According to this Principle Paul E. Dennison and Gail E. Dennison make brain gym movement that related with brain function, there are;

- a. Literality movement is for activating left and right brain (academic ability).
- b. Focus movement is for optimizing concentration capacity.
- c. Centre movement is for optimizing abstract thinking ability and managing emotion.

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

3. Mechanism How the Brain Gym Work

As like explain above Paul and Gail E. Dennison divide brain into three part, there are; a)literality dimension, for part of right and left brain; b) focus dimension, for part of back brain (brainstem) and front brain (frontal lobes); c) centre dimension, for midbrain and big brain. Brain gym movement that be done is varieties, because every dimension has their own task.

a) Literality dimension

Human body is divided into two part there are left and right part, in this case right brain will active if left part of body is moved and left brain will active if right part of body is moved, this characteristic enable to

¹⁶ Paul E. Dennison dan Gail E. Dennison, *Brain Gym : Buku Panduan* 1

occur a domination in one side, the ability to use two part of brain (left and right) is a basic ability in academic succeed.¹⁷ Some movement for this dimension are; cross crawl, double doodle, lazy 8s, the elephant etc.

b) Focus dimension

Focus is ability to cross “middle line participation” that separating back part and front part of body and also separating back part and front part of brain. middle line participation is vertical imagination line iin the middle of body.¹⁸ This dimension explains activities that related to comprehension. The examples of this movement are the owl, the calf pump, ets.

c) Centre dimension

Centre is ability to cross separating line between down part of body and up part of body, related with the function of down and up part of brain.¹⁹ The examples of this dimension are earth buttons, balance buttons, space buttons, etc.

4. Brain Gym Movement

In Brain Gym; there are 26 basic movements that are divided into three movements:²⁰

¹⁷ Paul E. Dennison dan Gail E. Dennisson, *Brain Gym : Buku Panduan*2

¹⁸ Paul E. Dennison dan Gail E. Dennisson, *Brain Gym : Buku Panduan*2

¹⁹ Paul E. Dennison dan Gail E. Dennisson, *Brain Gym : Buku Panduan*3

²⁰ <http://www.healthyexerciseworld.com/brain-gym-exercises.html>

1. 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.
2. 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.
3. 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, 6 movements are used as treatment that closely related with learning language:

a. The Thinking Cap

The Thinking Cap activates brain for: listening, focusing attention, inner dialogue, public speaking and thinking.²¹ 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.

²¹ Paul E. Dennison dan Gail E. Dennisson, *Brain Gym : Buku Panduan*57

c) Repeat step 2, two more times or until it feels complete.



Picture 2.1
The Thinking Cap

b. 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 and it also helps students speak clearer.²²

²² Paul E. Dennison dan Gail E. Dennison, *Brain Gym : Buku Panduan*59



Picture 2.2
Hook-ups

c. The Calf Pump

This exercise can improve attention, concentration and ability to express and respond.²³ 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.

²³ Paul E. Dennison dan Gail E. Dennisson, *Brain Gym : Buku Panduan*37

- e) Repeat step 3, three more times with the left leg extended.



Picture 2.3
The Calf Pump

d. The Energy Yawn

Energy yawn is one of the Brain Gym exercises that relieve the stress that interferes with learning and performance, it also can improve ability in oral communication and public speaking.²⁴ 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.

²⁴ Paul E. Dennison dan Gail E. Dennisson, *Brain Gym : Buku Panduan* 55

- 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.



Picture 2.4
The Energy Yawn

e. Belly Breathing

This movement improves expressive communication and speaking rhythm.²⁵ The steps are:

- a) Stand or sit comfortably.
- b) Place your hands gently on your belly, right around your navel.

²⁵ Paul E. Dennison dan Gail E. Dennisson, *Brain Gym : Buku Panduan*22

- 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.



Picture 2.5
Belly Breathing

f. Positive Points

This movement helps relieve stress and improve memory.²⁶ 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.

²⁶ Paul E. Dennison dan Gail E. Dennisson, *Brain Gym : Buku Panduan*61



Picture 2.6
Positive Points

B. Speaking

1. Definition of Speaking

Chaney says that, speaking is the process of building and sharing meaning through the use of verbal and non-verbal symbols, in a variety of contexts.²⁷

According to Theodore Huebner, he says that “Language is essentially speech, and speech is basically communication by sounds”. According to him, speaking is the ability used by someone in daily life communication. Whether at school or other place. The ability is acquired by much repetition: it primarily a

²⁷ A.L Chaney and T.L Burke, *Teaching Oral Communication in Grades K-8* (Boston: Allyn & Bacon, 1998), p. 13

neromuscular and not an intellectual process. It consists of competence in sending and receiving messages.²⁸

From the definition above, it can be infer that speaking is expressing ideas, opinions, or feelings to others by using words or sounds of articulation in order to inform, persuade, and to entertain that can be learnt by using some teaching – learning methodologies.

2. Type of Speaking

According to brown there are five types of speaking, those are:²⁹

1. Imitative

This is the ability to imitate a word or a phrase or possibly sentence.

While this is a purely phonetic level of oral production, a number of prosodic, lexical, and grammatical properties of language may be included in the criterion performance.

2. Intensive

Second type of speaking used in assessment contexts is the production of short stretches of oral language designed to demonstrate competence in a narrow band of grammatical, phrasal, lexical or phonological relationships (such as prosodic elements-intonation, stress,

²⁸ Theodore Huebner, *Audio Visual Technique in Teaching Foreign Language*, (New York: Cambridge University Press, 1960), p. 5

²⁹ Douglas Brown, *Language Assessment (principles and classroom practices)*, (America: San Fransisco State University, 2004), p. 141-142

rhythm, juncture). Examples of intensive includes directed response tasks, reading aloud, sentence and dialogue completion, limited picture-cued tasks including simple sequences and translation up to the simple sentence level.

3. Responsive

Responsive assessment tasks include interaction and test comprehension but the level is very limited to short conversations, standard greeting and small talk, simple requests and comments, and others

4. Interactive

The difference between responsive and interactive speaking is in the length and complexity of the interaction which sometimes includes multiple exchanges or multiple participants. Interaction can take two forms of transactional language which has the purpose of exchanging specific information, or interpersonal exchanges which have the purpose of maintaining social relationships.

5. Extensive

Extensive oral production task includes speeches, oral production, and story telling during which the opportunity for oral interaction to listener either highly limited (perhaps to non verbal responses) or ruled out altogether.

3. The Speaking Measurement

According to Arthur Hughes, the speaking measurement contains components elaborated from students' speaking proficiency including their accent, grammar, vocabulary, fluency, and comprehension.³⁰

a. Accent

An accent is a way of pronouncing a language. It is therefore impossible to speak without an accent.

The following table is the description of accent proficiency and its six-point scales.

Table 2.1
Accent Description

Level	1. Accent	
	Score	Criteria
1.	0	Pronunciation frequently unintelligible
2.	1	Frequent gross error and very heavy accent make understanding difficult, require frequent repetition
3.	2	"Foreign accent" requires concentrated listening and mispronunciation lead to occasional misunderstanding and apparent errors grammar or vocabulary
4.	2	Marked foreign accent and occasional mispronunciation

³⁰ Arthur Hughes, *Testing for Language Teachers*, (London: Cambridge University Press 2002), 131-133.

		which do not interfere with understanding
5.	3	No conspicuous mispronunciation, but would not be taken for native speaker
6.	4	Native pronunciation, with no trace of “foreign accent”

To measure the students’ proficiency in term of accent, researcher uses the criterion on the table above. Researcher then sums up the result of students’ score with other students’ proficiency score. After that, researcher concludes whether or not the students are successful in achieving the material. There are six levels in this proficiency. The scales of every level are very low. So that Arthur Hughes gives same scale for the level three and four. The six-point scales from the lowest to the highest are 0, 1, 2, 2, 3, and 4.

b. Grammar

According to IELTS cited by Hughes, the grammatical accuracy refers to the range and the appropriate use of the learners’ grammatical structure that involves the length and the complexity of the utterances in addition to the ability to use the subordinating clauses.

The following table is the description of grammar proficiency and its six-point scales.

Table 2.2
Grammar Description

Level	1. Grammar	
	Score	Criteria
1.	6	Grammar almost entirely inaccurate except in stock phrases
2.	12	Constant errors showing control of very few major patterns and frequently preventing communication
3.	18	Frequent errors showing in perfect control of some patterns but not weakness that causes misunderstanding
4.	24	Occasional errors showing imperfect control of some pattern, but not weakness that causes misunderstanding
5.	30	Few errors, with no pattern of failure
6.	36	No more than two errors during the interview

To measure the students' proficiency in terms of grammar, the researcher uses the criterion on the table above. The researcher then sums up the result of students' scores with other students' proficiency scores. After that, the researcher concludes whether or not the students are successful in achieving the material. There are six levels in this proficiency. The scales of every level are very high. The six-point scales from the lowest to the highest are 6, 12, 18, 24, 30, and 36.

c. Vocabulary

Achieving accuracy in terms of vocabulary refers to the appropriate selection of words during the speaking.

The following table is the description of vocabulary proficiency and its six-point scales.

Table 2.3
Vocabulary Description

Level	1. Vocabulary	
	Score	Criteria
1.	4	Vocabulary inadequate for even the simplest conversation
2.	8	Vocabulary limited to basic personal and survival areas (time, food, transportation, family, etc)
3.	12	Choice of words sometimes inaccurate limitations of vocabulary prevent discussion of some common professional a social topics
4.	16	Professional vocabulary adequate to discuss special interest; general vocabulary permits discussion of any non technical subject with some circumstances
5.	20	Professional vocabulary broad and precise; general vocabulary adequate to cope with complex practical

		problems and varied social situation
6.	24	Vocabulary apparently as accurate and extensive as that of an educated native speaker

To measure the students' proficiency in term of vocabulary, researcher uses the criterion on the table above. Researcher then sums up the result of students' score with other students' proficiency score. After that, researcher concludes whether or not the students are successful in achieving the material. There are six levels in this proficiency. The scales of every level are high. The six-point scales from the lowest to the highest are 4, 8, 12, 16, 20, and 24.

d. Fluency

Hughes (2002) defines fluency as the ability to express oneself in an intelligible, reasonable and accurate way without too much hesitation. Otherwise, the communication will break down because listeners will lose their interest.

The following table is the description of fluency proficiency and its six-point scales.

Table 2.4
Fluency Description

Level	1. Fluency	
	Score	Criteria
1.	2	Speak is so halting and fragmentary that conversation is virtually impossible.
2.	4	Speech is very slow and uneven except for short or routine sentences
3.	6	Speech is frequently hesitant, with some unevenness caused rephrasing and grouping for words
4.	8	Speech is occasionally hesitant, with some unevenness caused by rephrasing and grouping for words.
5.	10	Speech is effortless and smooth, but perceptible now native in speed and unevenness
6.	12	Speech or all professional and general topics as effortless and smooth as a native speaker's.

To measure the students' proficiency in term of fluency, researcher uses the criterion on the table above. Researcher then sums up the result of students' score with other students' proficiency score. After that, researcher concludes whether or not the students are successful in achieving the material. There

are six levels in this proficiency. The scales of every level are low. The six-point scales from the lowest to the highest are 2, 4, 6, 8, 10, and 12.

e. Comprehension

Comprehension is the ability to grasp something mentally and the capacity to understand ideas and facts.

The following table is the description of comprehension proficiency and its six-point scales.

Table 2.5
Comprehension Description

Level	1. Comprehension	
	Score	Criteria
1.	6	Understand too little for the simplest type of conversation
2.	12	Understand only slow, very simple speech on common social and touristy topics; requires constant repetition and rephrasing
3.	18	Understand quite well formal educated speech directed to him, but requires occasional repetition and rephrasing
4.	24	Understand careful, somewhat simplified speech directed to him with considerable repetition and rephrasing
5.	30	Understand everything in normal educated conversation except for very colloquial or low frequency items, or exceptionally rapid or slurred speech

6.	36	Understand everything in both formal and colloquial speech to be expected of an educated native speaker
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To measure the students' proficiency in term of comprehension, researcher uses the criterion on the table above. Researcher then sums up the result of students' score with other students' proficiency score. After that, researcher concludes whether or not the students are successful in achieving the material. There are six levels in this proficiency. The scales of every level are high. The six-point scales from the lowest to the highest are 4, 8, 12, 15, 19, and 23.

The following table is the weighting table of all proficiencies and their six-point scales.

Table 2.6
Weighting Table

Provenience Description	1	2	3	4	5	6	(A)
Accent	0	1	2	2	3	4	
Grammar	6	12	18	24	30	36	
Vocabulary	4	8	12	16	20	24	
Fluency	2	4	6	8	10	12	
Comprehension	4	8	12	15	19	23	
Total							

The total of the weighted score is then look up in the following table, which converts it in to a rating on a scale 0 – 4+

Table 2.7
Conversion Table

No	Score	Rating
1	16-25	0+
2	26-32	1
3	33-42	1+
4	43-52	2
5	53-62	2+
6	63-72	3
7	73-82	3+
8	83-92	4
9	93-99	4+

C. Review of Previous Study

Lilik Jumarsih under the title “The effectiveness of Brain Gym to improve mathematics comprehends.” She does 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 does the research on first year elementary school.³¹ However in this research researcher uses observation, oral test, and questionnaire to collect the data and does the research toward second year students of MTs Mathlabhul Huda Dukun Gresik.

Siti Afifah “Pengaruh Brain Gym Terhadap Peningkatan Kecerdasan” She does the research on May 28th 2007 at TK Yaa Bunayya 2 Surabaya. She uses correlation (descriptive quantitative) design. She used 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 effect to improve intelligence.³² Meanwhile, in this research, researcher uses experiment quantitative research. To collect the data researcher uses observation, oral test, and questionnaire.

³¹ Jumarsih Lilik, thesis: “*The effectiveness of Brain Gym method to improve mathematics comprehends*” (Surabaya: State Institute Islamic Sunan Ampel, 2011)

³² Afifah Siti, thesis: “*Pengaruh Metode Brain Gym Terhadap Peningkatan Kecerdasan*” (Surabaya: State Institute Islamic Sunan Ampel, 2011)

Nur Sa'idah "Efektivitas Brain Gym dalam mengatasi kejenuhan belajar pada Mata pelajaran Pendidikan Agama Islam" She does the research on 16th January 2009 in SMP Negeri 3 Taman, Sidoarjo. She uses quantitative research. Observation, interview, documentation, and questioner used in this research. The result is Brain Gym effective in overcome students' saturation.³³ The differences are dependent variable, location of the research, and research design.

Azizatul Ummah "the effectiveness of Brain Gym to improve students' English achievement"³⁴ she does the research at first year students of MTs N Krian, Sidoarjo. She does the research on July 22nd 2012. She uses pre test, post test, observation, and interview to collect the data. The result of this research is Brain Gym is effective in improving students' English achievement.

³³ Sa'idah Nur, thesis: "*Efektivitas Brain Gym dalam mengatasi kejenuhan belajar (learning plateau)*". (Surabaya: State Institute Islamic Sunan Ampel, 2009)

³⁴ Ummah Azizah, thesis "*the effectiveness of Brain Gym to improve students' English achievement*". (Surabaya: State Institute Islamic Sunan Ampel, 2012)