

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter discusses some issues related to the correlation between multiple intelligences and English national examination score which become the focus of this research. It contains the review of related study or calls the previous study. Some previous studies related to this research are also discussed. Another, it consists of some theories strengthening the problem discussed here.

A. Previous Study

Several studies have investigated the role of multiple intelligences in education. In the research, it is necessary to enclose review of previous studies to avoid replication. There are some previous studies which have similarity with this study. The first is research by Norma Hidayatussholihah, with her title “The effect of Multiple Intelligences Strategy to improve students’ achievement of Islamic education at SMP Muhammadiyah 9 “MeSRA” Surabaya” in 2010. Using quantitative design, she focused her study on whether or not multiple intelligences strategy affected students’ achievement of Islamic education at SMP Muhammadiyah 9 Surabaya. The findings which used questionnaire as the instrument showed that there is an effect of multiple intelligences strategy toward students’ achievement of Islamic education at SMP Muhammadiyah 9 Surabaya. It is shown by the last calculation of Multiple Intelligences Strategy to improve

students' achievement of Islamic education at SMP Muhammadiyah 9 "MeSRA" Surabaya is $r_{xy} = 0,48$.¹

The second previous study was conducted by Miftahul Jannah with the title "The Implementation of Multiple Intelligences System in Islamic Education in SMP YIMI Full Day School Gresik Jawa Timur" (a master of education thesis). She used qualitative and observation method to get the data. Managing Islamic Education learning in SMP YIMI Gresik which was made based on Multiple Intelligences System was well enough. That seems at arranging the lesson plan, the teaching-learning material, the teaching-learning method, the teachers, the assessment, and the accomplishing learning process in the class. Moreover, she found the advantages and disadvantages of the implementation of multiple intelligences in Islamic education learning.²

And the third is thesis project by Andrea Lauren Heming, Western Kentucky University with the title "Multiple intelligences in the classroom". She has done her project from the middle of March to October 2008. Observation and interview were used as her research instrument. This study shows that there is the importance in using Gardner's Multiple Intelligences theory in the classroom. Students will better understand the material if it is presented in multiple ways. It is recommended that pre-service teachers begin to change their mind set, and

¹Hidayatussholihah, Thesis: *The effect of Multiple Intelligences Strategy to improve students' achievement of Islamic education at SMP Muhammadiyah 9 "MeSRA" Surabaya*, (Surabaya: IAIN Sunan Ampel, 2010)

embark on adding in activities that focus on different intelligences more students will be reached.³

And the fourth is the dissertation by Thanh T. Nguyen of Harvard University for the degree of doctor of education in 2000, with the title “Differential Effects of a Multiple Intelligences Curriculum on Student Performance”. He used case study as his research design. The result of the California Achievement Test (CAT) given at 5 graders showed no differences between students in the MI and the traditional school program. Educators should find the results encouraging, even with no differences in test scores and grades, because this indicates that MI approaches are competitive with traditional ones.⁴

The previous studies described above are different with this study. Some previous studies were conducted to find the effect of the implementation of multiple intelligences. And almost all of them use observation as their instrument. None of the above research reviewed studied students’ English achievement, which is the last examination in our country, English national examination. This research explores this aspect deeper as stated in this background of study. In addition, this study just focuses on the correlation of multiple intelligences and English national examination for junior high school students.

²Miftahul Jannah, Master Education Thesis: *The Implementation of Multiple Intelligences System in Islamic Education in SMP YIMI Full Day School Gresik Jawa Timur*, (Surabaya: IAIN Sunan Ampel, 2009)

³Andrea Lauren Heming, *Multiple Intelligences in the classroom*, (Western Kentucky University: Honors College Capstone Experience/Thesis Projects, 2008), paper 138.
From http://digitalcommons.wku.edu/stu_hon_theses/138 (Accessed: July 6th 2011)

B. Theoretical Background

This part consists of some theories about multiple intelligences. The issues covered include the definition of multiple intelligences, the type of multiple intelligences, multiple intelligences approach, and the advantages of multiple intelligences.

1. Definition of Multiple Intelligences

To initialize discussion about the correlation between multiple intelligences and students' achievement, topic about the definition of multiple intelligences is also worth discussing.

Before the theory about multiple intelligences developed, Alfred Binet and his group of colleagues advanced a means of determining for primary grade students. Based on their endeavors came the first intelligence testing which became widespread in United States several years later. As his concept, appeared a thing called "intelligence" and could be objectively measured and reduced to IQ score.⁵ IQ testing as a measure of intelligence is very limited when compared to MI theory.

Dr. Howard Gardner, a psychologist and a professor of education at Harvard University, has formulated a theory of Multiple Intelligences. He stresses that all people have several types of intelligence. He provides a means of mapping the broad range of abilities that humans possess by grouping their

⁴Thanh T. Nguyen, *Differential Effects of a Multiple Intelligences Curriculum on Student Performance*, (USA: ISBN,2000), from www.dissertation.com/library/1121504a.htm

capabilities into the following eight comprehensive categories or “intelligences”.⁶

This theory is important to education because teachers see more frequently that students learn in different ways. The MI theory helps explain the differences seen.⁷ There are people who are word smart, picture smart, logic smart, musical smart, body smart, outdoor smart, self-smart, and people smart.⁸

High-ability learners generally have been characterized as having a high degree of one or more of the following qualities. They are general intellectual ability, specific academic aptitude, creative or productive thinking, leadership ability, visual or performing arts ability, and psychomotor ability. Multiple intelligences built upon the premise that students may be not just mathematic or verbal talented but also talented athletic, musical, interpersonal, naturalistic and others.⁹

Howard Gardner’s multiple intelligence theory offers the idea that intelligence have various levels which includes at a range of intellectual areas. Gardner suggests that intelligence has more to do with the capacity for solving

⁵Thomas Armstrong, *Multiple Intelligences in the Classroom...* 5

⁶Thomas Armstrong, *Multiple Intelligences in the Classroom...* 6

⁷Andrea Lauren Heming, *Multiple Intelligences in the classroom...* 1

⁸Sharon K. Ferret, *Peak Performance: Success in College and Beyond*, (New York: McGraw-Hill, 2006), p. (1-11) – (1-12).

⁹James H. Stronge, *Qualities of Effective Teachers...* viii

problems and fashioning products in a context rich and naturalistic setting.¹⁰

Julie Viens argues that there are seven key features of MI theory announce a sound interpretation and application of the theory, starting with its definition of intelligence¹¹

- a. Multiple intelligences offer a definition of intelligence based on how intelligence works in the real world.
- b. There are at least 8 qualitatively different intelligences in the human “tool box”.
- c. All eight (or more) intelligences are universal.
- d. Intelligences are educable.
- e. Individuals possess unique profiles of intelligences that develop and change over time.
- f. Each of intelligences has sub-abilities and operates differently in different domains or contexts.
- g. Intelligences work in combination, not isolation.¹²

Thomas Armstrong states that Gardner sets up certain basic “tests” to provide a sound theoretical foundation that each intelligence had to meet to be

¹⁰Alan Pritchard, *Ways of Learning. Learning Theories and Learning Styles in the Classroom*, (New York: David Fulton Publishers, 2005), 43

¹¹Julie Viens, *What makes a school a multiple intelligences school?... 1-3*

¹²Ibid., p.1-3.

considered a full-fledged intelligence and not simply a talent, skill, or aptitude. The criteria that he uses include the following eight factors:¹³

1. Potential isolation by brain damage
2. The existence of savants, prodigies, and other exceptional individuals
3. A distinctive developmental history and a definable set of expert “end-state” performances
4. An evolutionary history and evolutionary plausibility
5. Support from psychometric findings
6. Support from experimental psychological tasks
7. An identifiable core operation or set of operations
8. Susceptibility to encoding in a symbol system

By studying the effects of them, Gardner develops criteria to determine the existence or nonexistence of intelligence. Thus, Gardner has concluded that there are eight tentative intelligences. All individuals neither who have not had brain damage nor have some other condition that affects their brain have all eight intelligences.

2. The types of Multiple Intelligences

In the ‘Multiple Intelligences in the Classroom’ book points out that there are eight types of Multiple Intelligences.¹⁴ And based on the web of multiple intelligences institute “All the intelligences differ not only

¹³Thomas Armstrong, *Multiple Intelligences in the Classroom...* 8

¹⁴Thomas Armstrong, *Multiple Intelligences in the Classroom...* 6-7

neurologically, but in the symbol systems that they apply, the tools they call on, the core or sub abilities included, and how they are utilized in the real world.”¹⁵ The eight intelligences are elaborated below.¹⁶

- a. Linguistic intelligence; the capacity to use words effectively, whether or in writing. This intelligence includes the ability to manipulate the syntax or structure of language, the phonology or sounds of language, the semantics or meanings of language, and the pragmatic dimensions or practical uses of language.
- b. Logical-mathematical intelligence; the capacity to use numbers and to reason well. This intelligence includes sensitivity to logical patterns and relationships, statements and propositions, functions, and other related abstractions. It includes categorization, classification, inference, generalization, calculation, and hypothesis testing.
- c. Spatial intelligence; the ability to perceive the visual-spatial world accurately and to perform transformations upon those perceptions. This intelligence involves sensitivity to color, line, shape, form, space, and the relationships that exist between these elements.
- d. Bodily-kinesthetic intelligence; expertise in using one’s whole body to express ideas and feelings and facility in using one’s hands to produce or

¹⁵Multiple Intelligences Institute, p.10 (adapted from multipleintelligencesinstitute.com) (Accessed on April 20, 2011).

¹⁶Thomas Armstrong, *Multiple Intelligences in the Classroom...* 6-7

transform things. This intelligence includes specific physical skills such as coordination, balance, strength, flexibility, and speed.

- e. Musical intelligence; the capacity to perceive, discriminate, transform, and express musical forms. This intelligence includes sensitivity to the rhythm, pitch or melody, and timbre or tone color of a musical piece.
- f. Interpersonal intelligence; the ability to perceive and make distinctions in the moods, intentions, motivations, and feelings of other people. This can include sensitivity to facial expressions, voice, and gestures.
- g. Intrapersonal intelligence; self-knowledge and the ability to act adaptively on the basis of that knowledge. This intelligence includes having an accurate picture of oneself; awareness of inner moods, intentions, motivations, temperaments, and desires; and the capacity for self-discipline, self-understanding, and self-esteem.
- h. Naturalist intelligence; expertise in the recognition and classification of the numerous species—the flora and fauna—of an individual's environment. This also includes sensitivity to other natural phenomena and, in the case of those growing up in an urban environment, the capacity to discriminate among inanimate objects such as cars, sneakers, and CD covers.

There are eight ways of students learning based on multiple intelligences.¹⁷

Table 1.1 Eight Ways of Learning

Children who are highly . . .	Think . . .	Love . . .	Need . . .
Linguistic	in words	reading, writing, telling stories, playing word games	books, tapes, writing tools, paper, diaries, dialogue, discussion, debate, stories
Logical-Mathematical	by reasoning	experimenting, questioning, figuring out logical puzzles, calculating	materials to experiment with, science materials, manipulative, trips to planetariums and science museums
Spatial	in images and pictures	designing, drawing, visualizing, doodling	art, logos, videos, movies, slides, imagination games, mazes, puzzles, illustrated books, trips to art museums
Bodily-Kinesthetic	through somatic sensations	dancing, running, jumping, building, touching, gesturing	role-play, drama, movement, building things, sports and physical games, tactile experiences, hands-on learning
Musical	via rhythms and melodies	singing, whistling, humming, tapping feet and hands, listening	sing-along time, trips to concerts, playing music at home and school, musical instruments

¹⁷Thomas Armstrong, *Multiple Intelligences in the Classroom...* 33

Interpersonal	by bouncing ideas off other people	leading, organizing, relating, manipulating, mediating, partying	friends, group games, social gatherings, community events, clubs, mentors/apprenticeships
Intrapersonal	in relation to their needs, feelings, and goals	setting goals, meditating, dreaming, planning, reflecting	secret places, time alone, self-paced projects, choices
Naturalist	through nature and natural forms	playing with pets, gardening, investigating nature, raising animals, caring for planet earth	access to nature, opportunities for interacting with animals, tools for investigating nature (e.g., magnifying glasses, binoculars

The table above shows the way students' think, their love, and their need while acquire in many thing activities in the learning process in the school. Moreover, people have eight different types of intelligences. Some people are good at some things and other people are good at others. And, not all people are good at all things.

3. Multiple Intelligences Teacher Role

The best learners and the best teachers are when the teachers can improve, alter, and accommodate the curriculum with students' tendencies. But in general, the scope of national curriculum needs to be followed by

educators. Hand books often are only as a guide curriculum and teacher's reference. However, teacher has opportunity to take a decision their best ways to gain aim and target of learning. So, by the Howard Gardner's concept of multiple intelligences, teacher could make lesson plans and create some activities allow all students to use their strong intelligences while learning.¹⁸

Therefore, as Thomas Armstrong states that a teacher in a multiple intelligences classroom is very different with a teacher in a traditional linguistic/logical-mathematical classroom. In the traditional classroom, the teacher teaches while standing in the front of the class, s/he writes on the whiteboard, giving questions about the assigned reading or handouts to the students, and waits while they finish their written work. It is usual thing and very bored.¹⁹

In the MI classroom, the teacher keeps her educational objective purposefully in mind. They continually change her method of presentation differently. Many types of multiple intelligences are often combined in creative ways.²⁰ The atmosphere of teaching-learning process is very interesting because of effort and creativity of the teacher in conducting the class on the move. It is need good preparation to make all better without passing chance in keeping the students' tendency. In MI classroom, students are conducted as have to interact with each other in different ways (e.g., in

¹⁸Thomas R. Hoerr, *BukuKerja Multiple Intelligences*, (Bandung:Kaifa, 2007), p.52

¹⁹Thomas Armstrong, *Multiple Intelligences in the Classroom...* 56

pairs, small groups, or large groups), to engage in self-reflection, and learn through living things.

The theory can be implemented in a wide range of instructional contexts. It is from highly traditional settings where the teachers spend much of their time directly teaching students to open environments where students regulate most of their own learning. Even traditional linguistic teaching can take place in a variety of ways designed to stimulate the eight intelligences.²¹

4. Multiple Intelligences Research

How does an educator discover in which intelligence(s) each student's strengths lies in order to create the appropriate MI classroom? Howard Gardner presents two suggestions, that is

“Take them on outings to a children’s museum or to some other setting that provides a rich experience, like a playground with many kinds of games and watch them carefully. Second, give a short questionnaire about their strengths to the students and their parents and if possible their teachers from the previous year”.²²

Accordingly, to know students’ tendencies in the ways they learn, teachers can begin it from observe their habits and give them questionnaires about their interests. And likewise to the teachers, they can know their teaching style and repair it by learning other teaching style. So it will help in making interest activity in the classroom.

²⁰Thomas Armstrong, *Multiple Intelligences in the Classroom...* 56

²¹Thomas Armstrong, *Multiple Intelligences in the Classroom...* 56-57

There are some benefits of multiple intelligences research:

- a. As data information about psychologist condition in students' intelligences.²³ The result of MIR shows the natural condition of pupil's psychologist which will help the people around the children to maintenance them better.
- b. As the recommendation to the parents to do many good habits or creative activity.²⁴ It is suggested to implement many good activities in their children to decoy their children' talent, so parents should pay attention about it.
- c. As a means to identify the student's intelligence tendencies, learning style and ability.²⁵
- d. To help teachers to analyze the teaching style that would fits with the student's learning style in order to increase the student's learning ability.²⁶

5. The Approach to Multiple Intelligences in the Classroom.

Under the thesis of Andrea Lauren Heming wrote about Linda Campbell author of *Teaching & Learning through Multiple Intelligences*, statement. Campbell describes the following five approaches to adding

²²Howard Gardner, *Multiple Intelligences New Horizons*. (New York: Basic Books,2006), p.84

²³Munif Chatib, *Sekolahnya Manusia*. (Bandung: Kaifa, 2009), p.150.

²⁴Munif Chatib, *Sekolahnya Manusia...* 150

²⁵<http://www.nextworldview.com/media.php?module=detailposting&id=143>. (accessed on August 10, 2011)

²⁶Ibid.,.

multiple intelligences into the classrooms, which are lesson design, interdisciplinary units, student project, assessment, apprenticeships.²⁷

- a. Lesson design involves team teaching. It means the teachers using all or several of the intelligences in their lessons, or asking student opinions about the best way to teach and learn certain topics.
- b. Interdisciplinary units. It means secondary schools often include interdisciplinary units on certain topics.
- c. Student projects. When students are creating the projects, they can learn to manage complex projects.
- d. Assessments. It is planned which allow students to show what they have learned. Sometimes this takes the form of allowing each student to devise the way he or she will be assessed, while meeting the teacher's criteria for quality.
- e. Apprenticeships. Apprenticeships can allow students to "gain mastery of a valued skill gradually, with effort and discipline over time." Gardner feels that apprenticeships "...should take up about one-third of a student's schooling experience".²⁸

The approaches above will be very useful if the teachers used them as the basic of implementing in the class as teaching method. Making lesson design before they teach, using interdisciplinary units while teaching, giving

²⁷Andrea Lauren Heming, *Multiple Intelligences in the classroom...* 12-13

²⁸Andrea Lauren Heming, *Multiple Intelligences in the classroom...* 12-13

project to students, assessing them by authentic assessment, also apprenticeships as training with the learners are used in multiple intelligence classroom approach.

6. The Advantages of Multiple Intelligences in Education.

There are some advantages of multiple intelligences in education aspect. Julie Viens in article of *What makes a school a multiple intelligences school?*, Andrea Lauren Heming's thesis, Mark K. Smith, and also Alan Pritchard in *Ways of Learning* books, give the explanations about the advantages of multiple intelligences especially for the teacher there, that are:

- a) A broad vision of education. All seven intelligences are needed to live life well. Teachers need to attend to all intelligences. As Kornhaber has noted "it involves educators opting 'for depth over breadth'." Understanding entails taking knowledge gained in one setting and using it in another. 'Students must have extended opportunities to work on a topic'.²⁹
- b) Developing local and flexible programs. Howard Gardner's interest in 'deep understanding', performance, exploration and creativity are not easily accommodated within an orientation to the 'delivery' of a detailed curriculum planned outside of the immediate educational context.³⁰

Multiple intelligences were used as a basis for change in teacher

²⁹Stephen., Op.cit.

³⁰Mark K. Smith., *'Howard Gardner and multiple intelligences', the encyclopedia of informal education*, (<http://www.infed.org/thinkers/gardner.htm>, 2002, accessed on November 20, 2010)

classrooms in a variety of ways. Including their planning, general teaching, individualized teaching, self-assessment, assessment.³¹

- c) Looking to morality. “We must figure out how intelligence and morality can work together”, Howard Gardner argues, “to create a world in which a great variety of people will want to live”.³² The Multiple Intelligences classroom helps students realize how smart they are by providing them with different outlets of learning.³³
- d) Diversity in learning is appreciated.
 - 1) Teacher awareness: teachers were able to develop a better appreciation of the various skills of children in their class.
 - 2) Success: An appreciation of diversity apparently began to contribute to greater involvement and more success for more children.
- e) Classroom climate is more positive.³⁴ Students are provided the opportunity to engage in experiences across a range of intelligences or domains. According to Gardner, an authentic MI school allows for the experience and expression of much different intelligence for all students over time. A variety of activities, learning formats, tools and materials allow students to both solve problems and make products.³⁵

³¹Alan Pritchard, *Op.Cit.*, p.50-51.

³²Ibid.,

³³Andrea Lauren Heming, *Multiple Intelligences in the classroom...* 11

³⁴Alan Pritchard, *Op.Cit.*, p.50-51.

³⁵Julie Viens, *What makes a school a multiple intelligences school?*, (Multiple Intelligences Institute, 2009), p.4

- f) MI theory continues to evoke and renew inspiration in both new and veteran teachers. The MI theory is as an articulation of how the teachers think about students and a valuable tool for teaching the way they want to teach. MI theory is a validating, useful, and flexible organizing framework for educators.³⁶ Multiple intelligences theory encourages self-reflection among teachers.³⁷
- g) By teaching using the multiple intelligences theory a classroom is being created that is similar to the real-world and an environment where all children can be successful.³⁸

³⁶ _____ *Moving from Theory to Practice*. (Multiple Intelligences Institute)pdf. p.10-11

³⁷ Alan Pritchard, *Op. Cit.*, p.50-51.

³⁸ Andrea Lauren Heming, *Multiple Intelligences in the classroom...* 28