

# THE OPTIMIZING OF MULTIPLE INTELLIGENCES FOR INCREASING THE POTENTIAL TOWARDS HUMAN VIRTUOUS CHARACTER

Written by:  
Fauzan  
Asep Ediana Latip

---

## ABSTRACT

Multiple Intelligences which consist of verbal-linguistic intelligence, logical-mathematical intelligence, visual-spatial intelligence, bodily-kinesthetic Intelligence, rhythmic Intelligence, interpersonal intelligence, intra personal intelligence and naturalistic intelligence can be optimized through the process of optimizing the role of environmental context, the role of previous knowledge, the role of cognitive process, the role of genitive, distributed intelligence factor and the role of scaffolding process. Actually, with the implementation of optimizing multiple intelligences factors, the virtuous character of a person will be realized as a nurturant effect. But besides that, there are strategies that can achieve the optimizing of multiple intelligences as instructional effect processes and also increasing human potential which be virtuous character through multiple processes ineqalence approach, intelligence emotions management (Emotional Question), evocation process, inculcation process, moral reasoning process, value clarification, value analysis, moral awareness, commitment approach and the union approach.

**Keywords:** *Multiple Intelligences, Optimizing Factors and Human Potential Virtuous Character*

## INTRODUCTION

The phenomenon of building achievement competencies synergy of hard skill and soft skill keep rolling in education. Hard skill is a skill which is acquired directly (instructional effect) in the educational process that is characterized by the attainment of knowledge, comprehension, analysis, application, synthesis and evaluation. Soft skill is a skill that is acquired indirectly (*nurturant* effect) that is characterized by the attainment of the ability to accept, respect, appreciate, and practice in daily life. This phenomenon emerges the educational discourse based on the efforts to build harmony between the knowledge, skills and attitudes including the development of multiple intelligences (Howard Gardner), the balance of Intelligence Quotient (IQ) and Emotional Question (EQ) (Daniel Goleman), character-based education (Dony Keosoema), the integration of religion and science (Amin Abdullah), integrative education (Abudin Nata), and others.

This phenomenon of course makes proud because by the balance synergy efforts in educating and developing skills between hard skills and soft skills of every individual is a step forward to encounter the educational problem that has been the prolonged homework as if never recede from the moral degradation which weakens the sacred joints of education as guardians of the virtuous character establishing from throughout history such as fighting among students, corruption, rape, school bullying, sexual abuse and so on.

Therefore, propaganda of building this balance should continue to be disseminated in order that there is a collective awareness that to be successful requires a balance between intelligence and virtuous character. This is believed by Goleman that in an individual, there is mind intelligence and emotional intelligence. Emotional intelligence (soft skill) has a greater role to lead a relief of life that will never experience a fat life successfully forever. Not only Goleman, but also Gardner's multiple intelligences describes the intelligences in various dimensions of life such as intrapersonal, interpersonal, verbal, spatial and others. Therefore, efforts to optimize multiple intelligence in the process of education become the competence that cannot be compromised because of course by the effort; it can increase the virtuous character learners in a nurturant manner.

In addition, the efforts increasing the potential to realize human virtuous character in this current condition has a very relevant and urgent momentum even it may has been on emergency level internalized in all aspects of activity, especially education because when observing the current condition of society seemed to be wobbly and unstable of moral stability, character, virtuous and manners eroded by globalization that hits the local wisdom that if it is left, it would lose its identity as the nations that are religious and virtuous. Therefore, It is interesting to be analyzed how to optimize multiple intelligence? How do optimizing of multiple intelligences role in increasing the potential toward human virtuous character?

## DISCUSSION

### A. Basic Concepts of Multiple Intelligences

#### 1. The Definition of Multiple Intelligences

The term multiple intelligences means double or compound intelligences. Multiple intelligences seems to be popular when it was introduced by psychologist Howard Gardner (Desmita, 2009:167) that humans do not have the only one intelligence, but instead they have a lot of intelligences (Multiple Intelligences) which differ from each other. The belief like Gardner about multiple intelligences which is had by each individual is based on the wide Intelligence concept and including all aspects of human life such as intelligence concept developed by Santrock (2007: 317) that intelligence is thinking skill and the ability to adapt and learn from the experiences of daily life.

This concept can be understood that the experiences of daily life can be reconstructed by a person using its potential as a social, linguistic, interpersonal, intrapersonal and others. As an example of someone having multiple intelligences illustrated by Gardner (Ormrod, 2008: 212) is a person who is highly skilled in a field, for example in making music composition but he/she rather has an average ability in other science fields. An opposite example is a person who has a brain injury sometimes he/she loses the ability that relates only one intelligence. A person may show the difficulties, especially in the field of language, while the others may have difficulty in handling tasks that involve spatial reasoning.

In addition, Desmita (2009, 163) cites several other definitions of intelligence which describes the extent of the meaning contained in the intelligence implicitly supporting the concept of multiple intelligences are

*Intelligence refers to a general ability to learn from experience; also refers to ability to reason abstractly, (Seifert and Haffnung, 1994).*

*Intelligence is the capacity for goal directed and adaptive behavior; involves the abilities to profit from experience, solve problem, reason, and successfully meet challenges and achieve goals, (Myers, 1996).*

*Intelligence is defined as the entire repertoire of acquired skills, knowledge, learning sets, and generalization tendencies considered intellectual in nature that are available at any one period in time (Cleary, et.al.1975).*

*Intelligence is verbal ability, problem solving skills, and the ability to learn from and adapt to the experiences of everyday life (Santrock, 1998).*

By considering the various definitions of intelligence above looks clearer that the intelligence is not the only one that owned by a person but double or multiple intelligences, as their main ideas about intelligences above including a general ability (Seifer and Hafnung), adaptive behavior (Myers), Skills, Learning sets (Cleary), verbal ability (Santrock).

## 2. The Characteristics of Multiple Intelligences

Based on the intelligence concept above, it can be formulated the characteristics of multiple intelligences, but once again clarifying that the multiple intelligences is the different ability that is owned by a person, why is it different? According to Gardner, it is due to various intelligences have different manifestations in different cultures (Ormrod, 2008:212) therefore, that is right described by Santrock (Santrock, 2007: 317) that intelligence is thinking skill and the ability to adapt and learn from the experiences of daily life. Based on this explanation, intelligence plays a role in all contexts of a dynamic life so each individual must have an intelligence which is underlying the environment of his/her life. Hence, Gardner (Santrock, 2007: 323) recognizes that every individual has multiple intelligences. The characteristics of multiple intelligences lie in the possession of the following skills:

- a. Having verbal-linguistic skill (verbal-linguistic Intelligence)
- b. Having logical mathematical skill (logical-mathematical Intelligence)
- c. Having visual-spatial skill (visual-spatial Intelligence)
- d. Having kinesthetic-physical skill (bodily-kinesthetic Intelligence)
- e. Having musical skill (rhythmic Intelligence)
- f. Having interpersonal skill (Interpersonal Intelligence)
- g. Having intra-personal skill (intra-personal Intelligence)
- h. Having a natural skill (naturalistic Intelligence)

Different from multiple intelligences above, Sternberg (Santrock, 2007: 323) identifies multiple intelligences into three intelligences called intelligence *triarchic*; they are analytical skill, creative ability and practical ability. Analytical skill of learners is reflected in the ability to store information, transfer information, plan and make decisions and to translate those ideas into action. Creative ability is reflected in the ability to solve a new problem quickly and handle the routine

problems automatically. Practical ability is reflected by their ability in the association, and in resolving the problems and the ability to build the relationship well with everyone.

Another case Gardner and Sternberg, Thurstone (Desmita, 2009: 166) considers that multiple intelligences has the characteristics of the primary ability of intelligences consisting of:

- a. The understanding about verbal (Verbal comprehension)
- b. Fluency in using words (word fluency)
- c. The ability of number (numerical abilities)
- d. The ability of space (spatial factor)
- e. The ability to remember (memory)
- f. The Velocity of observations (perceptual speed)
- g. Reasoning ability (reasoning)

In addition, Guilford (Jamaris, 2010:118) who is called a modern intelligence expert develops multiple cognitive abilities of a person which consist of three components of intelligence are:

- a. Intelligence operation which includes cognitive ability, memory, divergent thinking, convergent thinking and evaluation.
- b. The content of intelligence which includes figural ability, symbolic, semantic, and behavior.
- c. The product of intelligence which consists of the ability to do *unitikasi*, *keasifikasi*, relation, system, transformation and implication.

### 3. The Measurement of Multiple Intelligences

Can multiple intelligences be measured? How the measurement instrument is applied in the measurement of multiple intelligences? The product of intelligence can indeed be measured by reading the indicator of someone's action but when someone thinks there is no measurement tool that knows the contents of someone's mind as the adage the ocean can be measured but no one knows someone's mind. Of the intelligence indicators develops measurement tool that can determine a person's level of intelligence described by Jamaris (2010: 131) which quotes the intelligence measurement of Intelligence classification/IQ by Terman:

IQ Score	Classification
140 to over	Genius or near genius
120-140	Very superior
110-120	Superior
90-110	Normal or average intelligence
80-90	Dullness
70-80	Borderline deficiency
Under 70	Deficiency feeble-mindedness

In educational developing intelligence standards in the classification called mental retardation or get a mental disorder is:

IQ Scores	IQ Classification
50-69	Mild
35-49	Moderate
20-34	Severe
Under 20	Profound



Based on the measurement standard above, among experts who try to develop the measurement of intelligence are:

a. Binet-Simon Intelligence Scale

Binet-Simon Intelligence Scale focuses on measuring verbal intelligence by developing a

$$\text{formula IQ} = \frac{\text{MA} \times 100}{\text{CA}}$$

Explanation MA = Mental Age/level of the child's ability

CA = Chronological Age/age of children

IQ = Intelligence Question

- 1) A child aged (CA) 10 years getting intelligence test scores as level with a child aged 10 years, so he/she has an IQ of 100 = normal
  - 2) A child aged (CA) 10 years getting intelligence test scores as level with a child aged 8 years, so he/she has an IQ of 80 = subnormal
  - 3) A child aged (CA) 10 years getting intelligence test scores as level with a child aged 12 years, so he has an IQ of 120 = above normal.
- b. Stanford-Binet Intelligence Test

Stanford Binary Intelligence Test develops the measurement of Intelligence called the standard ages score of development Simon-Binet.

c. Wechsler Adult Intelgense Scale

Wechsler Adult Intelligence Scale (WAIS) is one of intelligence measurement of multiple intelligences because WAIS believes about multifaceted intelligence so developing test that is oriented on the ability of verbal and performance test. To process the score that is obtained from the test, it uses statistical technique that is factor analysis aims to analyze and determine the specific skills that are in two main sections of intelligence test which it is developed.

The WAIS-III consists of fourteen sub-tests to be completed within 60-75 minutes. The test is administered individually; each sub-test is given separately and moved from the easy test item to the difficult test item. The test content covers general knowledge, arithmetic vocabulary, completing the picture, arranging the beam, images and objects.

#### 4. The Factors of Optimizing Multiple Intelligences

Multiple intelligence indicates that *Holistikalisasi* of the human ability to adapt in various living conditions, therefore, to support the optimizing multiple intelligence of course involving a variety of components that are closely related with the characteristics of multiple intelligences. However, among a number of factors that support the optimizing of multiple intelligences is interesting to observe Sternberg's opinion (Ormrod, 2008: 214) who developed multiple Intelligence by the concept of intelligence *triarchic* that to optimize multiple intelligence can be done by considering three main factors of optimizing intelligence are:

a. The factor of environmental context role

The role of environmental context in supporting the optimizing of multiple intelligences is someone's adaptive ability to adjust behavior to suit the environment, adjust the environment to suit someone's need and choose an environment that is conducive to success. What are environmental aspects that affect intelligence? This question is submitted by Santrock (2007: 328) and the answer

is given by citing the results of psychologists study such as:

- 1) The results of Seifer's Study (2011) which concluded that there is a significant correlation between socioeconomic status and intelligence of the way parents communicate with the children, support that is given by parents, the environment in which the family lived, and the school quality contributes to this correlation.
- 2) The Results of Hart and Risley's Study (1995), they found that parents with middle-income is more to communicate with their children who are still young compared to the rich parents. How often parents communicate with their children during their first three years correlated with the Stanford-Binet IQ scores at 3 years. The more often the parents communicate with their children, their IQ scores are higher.
- 3) The Results of Ceci and Gilstrap's Study, (2000), Christian, Bachman and Morrison, (2001) explained that the school affects the intelligence. The biggest influence has been found in children who do not get formal education in the long term, these children have decreased intelligence.

**b. The factor of previous knowledge role**

The role of previous knowledge can be optimizing multiple intelligences since intelligent behavior sometimes involves the ability to handle a new situation successfully. When a person is faced on a new task or problem, he/she should refer to the previous experience (prior knowledge) and consider the types of responses that are effective in handling a similar situation. Besides prior knowledge, the ability to generalize the previous experiences appropriately improves their ability to adapt quickly and overcome the new challenges.

**c. The factor of cognitive processes role**

There are a number of cognitive processes which are involved in intelligent behavior: interpreting new situations adaptively, separating the important information from the unimportant details, identifying the various possible problem-solving strategies, finding the connection between the ideas that seem unrelated, using feedback effectively and so on. From a number of cognitive processes if each individual is accustomed to do or exercise the cognitive processes, it can support optimizing someone's multiple intelligences.

**d. The Factor of Genetic Role**

How strong is the influence of genetic/heredity in the optimizing of intelligence? Santrock (2007: 328) explains by quoting the opinion of Neiser et al, (1996) that the concept of heritability tries to sort out the influence of heredity and environment in a population. Heritability is a part of the variance in a population that is associated with genetic factor. Heritability index is calculated by using correlation techniques. So, the highest level of heritability is 1.00; correlation over 0.70 indicates a strong genetic influence. All committees, consisting of honorable researchers who compiled by *American Psychological Association* concluded that the late teens phase, the index of heritability intelligence is approximately 0.75, indicating a strong genetic influence.

**e. The Factor of Distributed Intelligence**

Distributed Intelligence is the term that is introduced by Ormrod (2008:216) who has a sense that something is done by someone with the minimum help or even no help at all from the others around them, however, a person has a greater tendency to think and act as intelligence if they obtain the help from the physical environment, culture or social.

Distributed Intelligence can be done in three ways: first, using physical objects such as calculator, computer to handle and manipulate a large amount of information. Second is presenting and thinking about the situations encountered with the use of various symbolic systems of their culture such as words, chart, diagram, mathematical equations. Third is working together with others to explore the ideas and solve the problems as adage the power of two or two heads are better than one head.

#### f. The Role of Scaffolding Process

The factor of optimizing multiple intelligences can be done with the process of scaffolding. Scaffolding process as described by Santrock (2007:265) is the change in the level of support. The definition refers to the original purpose of the use of the term scaffolding popularized by Vygotsky to describe the change in support during the learning session where the person who is more skilled changing the guidance appropriate to the child's ability level.

Why should learning support change (the scaffolding process)? Vygotsky explains as quoted by Santrock (2007: 264) that each person will have to be on the Zone of Proximal Development/ ZPD or undergo a series of difficult tasks or even too difficult to be controlled by children alone but it can be learned with the help and guidance of an adult or a trained children (scaffolding).

The process of scaffolding is originally only used to assist the development of language and mind but basically it can be used for optimizing of multiple intelligences by developing a dialogue technique, private speech and inner speech. This is logical because the characteristics of multiple intelligences are related to language and mind as reinforced by Vygotsky (Santrock, 2007: 265) that all mental functions have external or social resource. Children should use the language to communicate with others before they focus into their own thoughts.

## B. The Potential of Human Virtuous Character

### 1. The Characteristics of Human Virtuous Character

Education in Indonesia in the 21st century looks visibly open minded towards social change or social phenomenon that occurs. The social change which is being felt is widespread of the information, computing, communication and automation to the educational communities (Kemendikbud, Socialization Curriculum 2013 Slide). Therefore, the curriculum in 2013 is aimed to achieve the phenomenon by integrating scientific approach in the spirit of learning process exploiting the phenomenon of the 21st century society development by encouraging for finding out, not to be told.

However, the opposite phenomenon of social change is the decline of moral or national character or experiencing moral degradation of nation such as the rising of corruption, fighting among students, acts of violence in the school until the school becomes an unsafe and comfortable place. This condition actually motivates the moral getting the place again in the educational process and in this 2013 curriculum, character education gets the momentum.

But does human have the potential virtuous character? How to embed a virtuous character in students? The answer is that the manner is closely related to the moral values and character that comes from the religion or the national character which is agreed by a particular region while the goodness above the potential that is truly held by human and it is possible to be developed by the due the man has an *edukabilitas* dimension to accept external intervention in order to realize himself/herself to be a virtuous character. As described by Koesoema (2010: 109) that the *edukabilitas* of human dimension globally refers to the environment of existential aspects, social and relational

which is owned by the subject that should be a major concern for the individuals or the groups that would help support them in developing themselves fully as far as the possibility is owned.

What kind of the character that is expected by the education process? The answer is as described in the National Education System Law No. 20 of 2003 that education aimed is a conscious and deliberate effort to realize an atmosphere of learning and the learning process in order to the students actively develop their potential to have the spiritual strength of religious, self-control, personality, intelligence, glorious character and the skill that is needed by themselves, society, nation and state. Based on the definition of the education, the characteristics of virtuous character are the students having a religious spiritual, self-control, personality, intelligence, virtuous character, and the skill that is needed by him/her, society, nation and state.

The characteristic of the virtuous character in the context of Indonesian is also described in the function and the purpose of national education in the National Education Law No. 20 of 2003 that the national education serves to develop the capability of forming nation character and civilization which is dignity in the context of the intellectual life of the nation, aimed at developing students' potentials in order to become a man of faith and fear of God Almighty, good moral, health, knowledgeable, skilled, creative, independent and become the democratic citizens and responsible.

The characteristic of the virtuous character is in rhythm with the value of education as described Koesoema (2010: 199) that in the discourse about the value of education, we often hear the term character education, virtuous character and moral. Character is derived from the Sanskrit word which has the sense of a manner and courtesy in the society. While the virtuous or moral character derived from the Arabic word primarily teaches how someone should relate to God, the creator as well as how someone should relate to fellow human beings.

Thus, it can be understood that the characteristic of character rooted in religious values, moral values, the values of character and citizenship values that can be internalized in the students or every individual through the process of developing human potential *edukabilitas*. Koesoema (2010: 205) classifies some character values that can be a part of person's character, they are the value of virtue, the value of beauty, the value of working, the value of loving the country (patriotism), the value of democracy, the value of unity, moral values and human values.

The characteristic of human virtuous character is rooted in the values of the nation character in the context of Indonesian-ness to refer to the four fundamental pillars of underlined-spirit of the principles of *Pancasila* (Mulyasa, 2012:b254) as follows:

- a. The characters that come from the heart manner include: faith and fear, honest, trustworthy, fair, orderly, law-abiding, responsible, empathetic, willing to take risks, never give up, sacrifice, and patriotic spirit.
- b. The characters that come from thought manner include: intelligent, critical, creative, innovative, curious, productive, science and technology oriented, and reflective.
- c. The characters that come from sports/kinesthetic include: clean, healthy, sportive, tough, reliable, resilient, friendly, cooperative, determinative, competitive, cheerful and persistent.
- d. The characters that come from feeling and intention are: humanity, mutual respect, mutual cooperation, togetherness, friendly, respectful, tolerant, nationalist, caring, cosmopolitan (worldwide), prioritizing the public importance, patriotism, be proud in using language and Indonesian products, dynamic, hard working, and energetic working.

The characteristics of Human virtuous character that comes from religion is described by Khalid (2005: 32) that the man has the potential to have the characteristics of virtuous character



*Ihsan*, humble, honesty, trust, *wafa'*/keeping promises, *haya*/shame and mercy/compassion. Hambali (2009) adds that the characteristic of human virtuous character is about human fulfilling the characteristics of *Ulul albab* which really into science, separating the badness from the goodness, critical, being ready to convey the knowledge and fear of Allah only.

## 2. The role of Multiple Intelligences in Increasing the Potential of Human Virtuous Character

There is a popular adage that smart people are not certainly virtuous character, but the virtuous character requires intelligence. There are many ways to increase human potential into a virtuous character, including one of which is through multiple talent (multiple intelligences) approach as identified by Khan (2010: 18) about the strategies of character education that includes:

- a. *Value clarification and moral development approach*
- b. *Self esteem approach*
- c. *Multiple talent approach (mind mapping, multiple intelligence, public speaking, effective thinking)*
- d. *Creative approach*
- e. *Pictorial riddle approach*
- f. *Inquiry approach*
- g. *Synetics approach*

Based on the strategies above seems clearly that there are multiple intelligences in relation to increase the potential of human virtuous character that multiple intelligence which is possessed by human is the first step to be a virtuous character. Like two sides of a coin that to be human virtuous character requires intelligence to understand the characteristics of the character as described by Muslich (2011: 133) that is necessary to establish a balance in developing the moral character of knowing (intelligence), moral feeling and moral action (character).

Multiple intelligence is the potential related to the hard skill while the character is soft skill. To realize the potential of a whole person requires the integration of hard skill and soft skill in the term moral psychology can be a part of Emotional intelligence (EQ) which is popularized by Daniel Goleman (Desmita, 2007: 170) IQ and EQ integration process in the contemporary view is described by Desmita (2007: 170) that the success of someone's life is not only determined by intellectual but also emotional intelligence. Goleman asserts the results of his research (1995) that every human being has two potential minds, namely the rational mind and the emotional mind. The rational mind is driven by intellectual ability or popularly known as IQ, whereas the emotional mind is driven by emotion.

Why does the character include EQ? Because emotional intelligence refers to the ability to recognize our own feelings, and the feelings of others, the ability to motivate ourselves, and the ability to manage the emotions well to ourselves in relationships with other people, all of these abilities are the characteristics of a virtuous character as previously described. Therefore, Goleman (Desmita, 2007: 170) identifies the emotion abilities of intelligence into five important abilities are: knowing one's emotions-self awareness, managing emotion, motivating oneself, recognizing emotions in other and handling relationships.

In addition, to demonstrate the role of multiple intelligences in increasing human potential towards virtuous character in education to develop educational process which is described by

Zubaedi (2011: 248) that there are eight approaches that can be used in the educational process involving the role of multiple intelligence for forming the characters namely: 1. Evocation; it means that the approach provides the opportunity and flexibility to the students to freely express the affective response to the stimulus that they are received, 2. Incultation; it means that the approach is aimed to the students receive a stimulus toward ready condition, 3. Moral reasoning; it means the approach that high taxonomic intellectual transactions occurred in finding solutions to a problem. The three stages of the morals, namely: a. the phase of moral knowledge, b. the phase of moral feeling; and c. the phase of action morally. Moral reasoning is a systematic process for evaluating a personal virtue and developing a consistent and impartial of moral principles which is used to live. Moral knowledge is the cognitive phase of learning about moral issues and how to resolve them. Moral sense is a moral respect which is the basic of what is believed about him/her and others. Moral action is a person who is acted obviously based on his/her values and knowledge. 4. Value clarification; it is an approach through targeted stimulus in order to the students are invited seeking the clarity of moral imperative message, 5. Value analysis; it is an approach which the students are stimulated to perform the analysis of moral values, 6. Moral awareness; it is an approach which the students receive a stimulus and are raised their awareness of a certain value, 7. Commitment approach; it is an approach that the students from the beginning are invited to agree on the existence of a mindset in the value of education, 8. Union approach; it is an approach that the students are directed to act the real moral values in a life.

In a different context from the side effects caused by a person's intelligence, multiple intelligence can play a role in increasing human virtuous character described by Gunawan (2012: 19) because multiple intelligence is as an individual internal factor that can affect the formation of manner, character, moral and ethics in addition to the external factors such as through the education and the environment. Internal factors which are aimed are intelligence, instinct, heredity, and the willingness of each individual, custom and conscience.

## CONCLUSION

Multiple intelligences is a term that describes the plurality and comprehensiveness of human intelligence, but of a plurality of intelligence possessed by each individual making human be *establish* in facing of the complexity of human life, so if in a *holistic* manner has multiple intelligences, it would be sure formed human virtuous character. Many experts try to identify individual multiple intelligences like Howard Gardner identifies them into verbal-linguistic intelligence, logical-mathematical intelligence, visual-spatial intelligence, bodily-kinesthetic intelligence, rhythmic intelligence, interpersonal intelligence, intra-personal intelligence, naturalistic intelligence. Sternberg grouped into three intelligences; they are analytical ability, creative ability and practical ability. Another case Gardner and also Sternberg, Thrustone considers multiple intelligences has the characteristics of the primary ability in the intelligence consisting of verbal comprehension, word fluency, numerical ability, spatial factor, memory, perceptual speed and reasoning.

The efforts to optimize multiple intelligences which are obtained toward optimizing the role of environmental context, the role of prior knowledge, the role of cognitive processes, the role of genetic, the factor of distributed intelligence and the role of scaffolding process are expected that they can increase human potential towards virtuous character. This can be understood as human virtuous character that will not be out of environment as expensive as building the intelligence; therefore, increasing the character in a *nurturant* manner can be realized if multiple intelligence is formed in addition to the characteristics of multiple intelligence containing the intelligence which

is oriented on forming the character as interpersonal and intra-personal intelligence. Besides that, there are the processes that are immediate to establish the potential toward human virtuous character.

But besides that, there are strategies that can achieve the optimizing of multiple intelligences as well as the process of instructional effect increasing human potential toward virtuous character which is through the process of multiple intelligence approach, the management of emotional intelligence (Emotional Question), the process of evocation, inculcation, moral reasoning, value clarification, value analysis, moral awareness, commitment approach and union approach.

## REFERENCES

- Desmita, (2007) *Psikologi Perkembangan*, Bandung: PT. Remaja Rosdakarya.
- Gunawan, Heri (2012) *Pendidikan Karakter: Konsep dan Implementasinya*. Bandung: Alfabeta
- Hambali & Q-Anees (2009) *Pendidikan Karakter Berbasis Al Qur'an*. Bandung: Simbiosis Rekatama Media.
- Hurlock, B. Elizabeth (tt) *Development Psychology: A Life-Span Approach, Fifth Edition*; Alih Bahasa: Istiwayanti et.al., Jakarta: Erlangga.
- Jamaris, Martini (2010) *Orientasi Baru dalam Psikologi Pendidikan*, Jakarta: Penamas Murni.
- Koesoema, A. Doni (2010) *Pendidikan Karakter: Strategi Mendidik Anak di Zaman Global*. Jakarta: P.T Grasindo.
- Khan, Yahya (2010) *Pendidikan Karakter berbasis Potensi Diri: Mendongkrak Kualitas Pendidikan*. Yogyakarta: Pelangi Publishing.
- Khalid, Amru (2005) *Al Akhlaq al Mu'min*, alih bahasa: Narulita: *Menjadi Mukmin yang Berakhlak*. Jakarta: Qisthi Press.
- Mulyasa, (2012) *Manajemen Pendidikan Karakter*, Jakarta: Bumi Akasara.
- Muslich, Masnur (2011) *Pendidikan Karakter: Menjawab Tantangan Krisis Multidimensional*. Jakarta: Bumi Aksara.
- Ormrod, Jene Ellis (2008) *Educational Psychology Developing Learners: Sixth Edition*. Alih Bahasa Indianti, et.al., Jakarta: Erlangga.
- Santrock, John W (2007) *Child Development, Eleventh Edition*; Alih Bahasa Mila Rahcmawati dkk., *Perkembangan Anak*. Jakarta: Erlangga.
- Zubaedi, (2011). *Desain Pendidikan Karakter: Konsepsi dan Aplikasinya dalam Lembaga Pendidikan*. Jakarta: Prenada Media Group.



STATE ISLAMIC UNIVERSITY  
SUNAN KALIJAGA  
YOGYAKARTA



## MAINSTREAMING MULTICULTURAL STUDIES FOR RADICAL ISLAMIC MOVEMENT IN YOGYAKARTA

**Written by:**

**Nur Hidayat**

**Lecturer of PGMI FITK UIN Sunan Kalijaga Yogyakarta**

**Email address: bos\_hidayat@yahoo.com**

---

### ABSTRACT

Study of radicalism in the body of Jama'ah Shalahuddin, can be concluded that Jama'ah Shalahuddin conceptually or in radical thought, but socially, is very plural. This is seemed to be contradiction, but apparently this is the chosen path of Shalahuddin to "escape" from a variety of other student organizations. In the context Jama'ah Shalahuddin, multicultural education could be perceived as an alternative offer of pedagogic practices that leverage the diversity of disciplines.

**Keywords:** *Radicalism, multicultural, Jamaah Shalahuddin of UGM university mosque*

### A. INTRODUCTION

The developments in the after math of the events of 9/11 brought all Islamic educational institutions into the spotlight.<sup>1</sup> In Indonesia, attention directs to to Salaf boarders.<sup>2</sup> The incident which started from some groups of men wore long fowing robe, calf-length trousers, turban and long beard, also niqab women, strength the attention around.<sup>3</sup> The incident of arrested Abu Bakar Ba'Asir with his Ngruki boarders, and the emergence of Ja'far Umar Thalib, as if convinced the world as their correct accusation. Since that time, the spotlight to sala f boarders becomes prominent.

But, the international spotlight lately has refuted by the arrest of terrorists who were not in salaf background, but rather from public school and even university which they are inclusive and multicultural in fact.<sup>4</sup>

This research is focused on Jama'ah Shalahudin from public university, Gadjah Mada University<sup>5</sup>. The fall of the option is based from the reality that Jama'ah shalahudin in UGM university mosque emerged as militant Islam group which is the most phenomenal that shakes the plural society because of the persistence of members to be "martyr" for God. Then, the enchantment of Jama'ah Shalahuddin is on the fact that they can not be separated with Salaf propaganda movement. Focusing on Jama'ah Shalahuddin in UGM university mosque, this research explores

1 Noorhaidi Hasan, "*The Salafi Madrasas of Indinesia*" dalam Farish A. Noor, Yoginder Sikand & Martin van Bruinessen (eds.), "*The Madrasa in Asia, Political Activism and Transnational Linkages, e-book*, (Amsterdam: Amsterdam University Press), hal. 249

2 Martin Van Bruinessen, (1995), *Kitab Kuning, Pesantren dan Tareqat*, (Bandung: Mizan, 1995), hal 19

3 Noorhaidi Hasan, *Laskar Jihad; Islam, Militansi, Pencarian Identitas di Indonesia Pasca Orde-Baru*, (Jakarta: LP3ES, 2008), hlm. 31

4 Ibid., hml. 233-234

5 Setna Krisna Sumargo, *Noordin M. Top dan Co. The Untold Stories*, (Jakarta: Gramedia, 2009), hlm. 63-67; bandingkan dengan pengakuan mantan aktivis NII, Dani Dwi Permana, alumni SMA Swasta di Jakarta, dalam Baban Sarbana, *Blogger Ngomong Politik*, (Jakarta: Elex Media Komputindo, 2010), hlm. 38-39

the history of an Islam community and the process on how it is built in around multicultural society. Therefore, this research focus is in mainstreaming multicultural studies in de-radicalization of religion effort for public schools.

Explicitly, this research wants to answer the problem: *first*, what are the factors which indicating of the spread of religion radicalism movement, both in public schools and public universities? *Second*, how is the process of the spread of radicalism religion movement, both in public schools and public universities? *Third*, how to mainstream multicultural studies for radical islamic movement?

## B. RESEARCH METHODOLOGY

This research uses sociology approach based in transformative sociology theory. This research unites theoretic and empiric research. The data sources is collected by library and field research. Library research is done by researching books and dissertation, thesis, graduating paper, journal and others. Beside that, the library research is also done by electronic exploration (internet) and mass media (newspapers and magazines) which are related to the research subject. The second primary research is field research. Field research is done in Jama'ah Shalahuddin Gadjah Mada university mosque in Yogyakarta. This subject is chosen because it is reputed as "prominent circle" of development in Islamic university communities in Yogyakarta. This prominent circle is known by the same Jama'ah Shalahuddin movement actors although they are in different mosque locations.

This research is qualitative research which has some characteristics, *first*, it is in scientific field, *second*, researcher is instrument or primary data collector, *and third*, data is analyzed in inductive way.<sup>6</sup> According to *Yin*, research focus will answer more about "how".<sup>7</sup> Philosophically, as with data characteristics, collecting technique and research analysis in this research point to *post-positivisme-phenomenology*.<sup>8</sup> This qualitative approach choice is based on this study characteristics that the aim and data are convinced to be more relevant with qualitative approach.<sup>9</sup> Validity and data reliability which are obtained from this research is fundamentally will rely on observation of vary sides who participate in managing the community and/or activities in Jama'ah Shalahuddin.

Collecting data techniques are done in four ways: (a) participant observation become active participants in the Jama'ah Shalahuddin forum for 1 month. (b) interviewing the board and prominent figures of other Jama'ah Shalahuddin, (c) collecting documents, organization structure, bulletin, tabloid, and audio record in every recitation.<sup>10</sup>

## C. RESEARCH SETTING

Geographically, Jama'ah Shalahudin is now located in UGM university mosque and managed in different management than Lembaga Dakwah kampus (LDK) Jama'ah Shalahuddin. For that reason, duty and role are also different. Under its own management, UGM university mosque only manages external mosque parts, which are: manage and keep the mosque clean, both inside mosque, outside mosque, and wudhu place; organizing mosque management; keep infrastructure of university mosque in complete; also providing glasses for people in the mosque.<sup>11</sup> While LDK

6 Lexy J. Moleong, *Metodologi Penelitian Kualitatif* (Bandung: Remaja Rosda Karya, 1989), hlm. 3.

7 Robert K. Yin, *Case Study Research, Desighn And Methods*, Terj. M. Jaudzi Mudzakir (Jakarta: PT Raja Gra fndo Persada 1996), hlm. 18.

8 Noeng Muhadjir, *Metodologi Penelitian Kualitatif* (ed. IV) (Yogyakarta: Andi Offset, 2002), hlm. 17.

9 Lincoln & E. G. Guba, *Naturalistic Inquiry* (California: Sage Publications Inc. 19985) hlm. 39.

10 R.C Bogdan & S.K. Biklen, *Qualitative Research Education; An Introduction to Theory and Method* (London: Allin dan Bacon, Inc., 1982), hlm. 145.

11 Interview with Muhammad Ali on Tuesday September 24th 2013, at 14.15 WIB in masjid kampus UGM.

Jama'ah Shalahuddin management manages internal problems, which are: keeping the mosque in prosperity with certain recitation, and making the university mosque as Islamic Center.

LDK Jama'ah Shalahuddin UGM secretariat is located in Jl. Tevesia No. 1 Bulaksumur – Yogyakarta, exactly in south wing of UGM mosque pulpit. In the end of 1999, exactly in Ramadhan 1420H, by UGM rector, the secretariat is moved from Gelanggang Mahasiswa to UGM university mosque. In this reliance, rector hopes that the managing and prosperity of mosque is still kept.

Shalahuddin is built in 1976. But, there was no agreement reached about date and month of when it was built, especially because in year one, Shalahuddin was more than anomie group than organized group. In years before Shalahuddin is built, student movements activities in Gadjah Mada (like the most universities in Indonesia) most of them is motive by rivalry between two dominant student organizations: GMNI (Gerakan Mahasiswa Nasionalis Indonesia) and HMI (Himpunan Mahasiswa Islam). GMNI is secular-nationalist student organization, and before it was related with PNI. While HMI is Islamic student organization, and in the past, this organization was close to Masyumi politic party. This rivalry started from politic context of student activities, but the effects was broader than politic problem itself. Some muslim students who were really worry because of fact that islam speech missionary in university is always failed over GMNI muslim students (or for more: non-HMI). This was only because the speech missionary is seem only from HMI. Then, one of the students who is pertinent stated a problem to the researcher, "in that time, GMNI muslim students will not come to Jum'ah pray or taraweeh pray because they do not want to be identified as HMI member!"<sup>12</sup>

That was also because Gerakan Mahasiswa Indonesia in the broader context was having a hard time since the era of the New Order political restrictions. In this context, Saladin established in the very early forms: loose and unstructured. Surprisingly, this is a fairly early. Establishment Saladin begins with Maulud program, commemorating the birth of Prophet Muhammad. In contrast to conventional Maulud, which consists mostly of religious sermons, the program also consists of performing arts such as painting exhibitions, choirs, poetry readings, as well as dialogue and group discussion forums. One of the speakers in the cultural dialogue is the late YB Mangunwijaya, a well-known Catholic priest. The program was named the *Maulid Pop* and then it became a model for the propagation method Saladin.

Five new boarders were also students of UGM at the time; Ahmad Fanani, Muslich ZA, A. Luqman, M. Toyibi, and Samhari Baswedan, is recognized as the founder of Jamaat Saladin, ie, the people who set Maulid Pop.

Fanani, Muslich, and Luqman are students of Faculty of Engineering, while Toyibi and Samhari are students of the Faculty of Medicine. Toyibi was chairman of the Student Council in Gadjah Mada at the time. As told very interesting, a magazine published by Saladin, Fanani Toyibi came in 1976 when the afternoon rains. He requested that the Chairman is willing to cooperate in the preparation of *Maulid Pop*, a set of programs aimed at presenting Islam based on scientific culture campus.

Jama'ah Shalahuddin name was first used in the RIC Program (Ramadan in Campus). And for the very simple reason: they would need a name for structural committee that will be announced to the public. Then, the organization is named after a famous Muslim hero of the Crusades; *Salahuddin al Ayyubi*, although most members of Saladin claimed that there was no particular reason for choosing this name. Then, one of the RIC Committee announced a name "Shalahuddin" and would be a good name for a committee. The researcher views that Salahuddin opined that

12 Interview with Muhammad Ali on Tuesday September 24th 2013, at 14.15 WIB in masjid kampus UGM.



*Salahuddin al Ayyubi* is someone who "can communicate with all people on each side, and that's why we use his name". Although not all Shalahuddin activists agreed with this opinion, when they are asked if the name was chosen based on certain considerations such as "reproduce" the spirit of the Crusades—which to some extent imply the anti-Christian feeling. On the one hand, it would be hard to ignore isolated statement that the choice of name reflects Shalahuddin's willingness to inherit the spirit. But on the other hand, there is no evidence to corroborate this speculation. Since Jamaat Shalahuddin begins with Maulud celebration, researchers will also speculate that the reason the committee chose the name because *Shalahuddin al-Ayyubi* was the first person to start Maulud tradition. He did it for the purpose of maintaining and restoring the spirit of the Muslims during the Crusades.

#### D. ANALYSIS AND DISCUSSION

In short definition, multiculturalism means "cultural diversity".<sup>13</sup> There are three terms that are often used interchangeably to describe the diversity of the communities that comprise both the diversity of religion, race, language, and culture, which are the plurality, diversity, and multicultural.<sup>14</sup> According to Bhikhu Parekh, in the 1970s, *multiculturalism* appears first in Canada and Australia, then in the United States, Britain, Germany, and others. After that, the discourse of *multiculturalism* is growing very rapidly. After three decades since it was rolled out, *multiculturalism* has experienced two major waves, which are, *the first*, multiculturalism in the context of the struggle for the recognition of different cultures. The principle of the need for recognition is the main characteristic of this first wave; *second*, *multiculturalism* that legitimize the cultural diversity and undergo several stages, including:<sup>15</sup>

The need for recognition, involving a variety of other academic disciplines, liberation against *imperialism* and *colonialism*, liberation movements of identity groups and indigenous peoples, *post-colonialism*, *globalization*, *post-nationalism*, *post-modernism* and *post-structuralism* that deconstructs establishment structure in the society.<sup>16</sup> This second wave of *multiculturalism*, according to Steve Fuller, it raises three challenges that must be considered as well to watch out for, namely, *the first* is the existence of western hegemony in the politic, economy, and science. Community, especially developing countries, need to study the causes of western hegemony in these fields and take the necessary steps to overcome, so they can be aligned with the western world. *The second* is culture essentialization.<sup>17</sup>

Radical Islamic movement and its meaning, *etymologically*, radicalism comes from the word *radix*, meaning root. A radical is someone who wants to change the existing situation by breaking it through the roots. A radical is a person who likes quick and fundamental changes in laws and methods of government. So, radicalism can be understood as an attitude that craving for change of the status quo by way of totally destroying the status quo, and to replace it with something new which is different. Normally, the way that is used is revolutionary way, that means turning over the

13 Scott Lash dan Mike Featherstone (ed.), *Recognition And Difference: Politics, Identity, Multiculture* (London: Sage Publication, 2002), hlm. 2-6.

14 Agus Moh. Najib, Ahmad Baidowi dan Zzainudin, "Multikulturalisme dalam pendidikan islam (studi terhadap uin yogyakarta, iain banjarmasin, dan stain surakarta)", dalam <http://idb3.wikispaces.com>.

15 H.A.R. Tilaar, *Multikulturalisme; Tantangan-Tantangan Global Masa Depan dalam Transformasi Pendidikan Nasional* (Jakarta: Grasindo, 2002), hlm. 83.

16 Gregory Jay. "Critical Contexts For Multiculturalism" dalam <http://www.uwm.edu/~gjay/Multicult/contextsmulticult.htm>, download 2 Desember 2005

17 Steve Fuller, "Social Epistemology as a Critical Philosophy of Multiculturalism" dalam Ram Mahalingan dan Cameron McCarthy, *Multiculturalism Curriculum*, 2002. hlm. 15-36 sebagaimana dikutip oleh H.A.R. Tilaar, *op. cit*, hlm. 84-85.



existing values drastically through violence (*violenceri*) and extreme actions.<sup>18</sup>

Sociologically, radicalism often arises when there are many contradictions in the existing social order. When people who experience anatomy or gap between values and experiences, and people is no longer having the power to overcome that gap, then radicalism can emerge into the surface. In other words, there will be a process of radicalism in layers of society, especially among young people. However, there is no consensus for the right term of Islamic radical name to describe the radical Islamic movement. The most common term is "*fundamentalism*", in order to show the attitude of Muslims who reject the existing social order and try to apply a separate order model based on religious values.<sup>19</sup>

However, the term is too much influenced by the Christian tradition refers to the movement of Protestant fundamentalism. To avoid religious bias, some analysts use certain terms, that are sociological and political as "radical, extreme, religious nationalists, or simply by Islamists". The difficulty of applying this term is also arises from the fact that members of religious radicalism movement have never called himself as fundamentalist. Arab mass media are usually call them radical or extreme while *Hasan al-Banna* himself as the founder of *al-Ikhwān al-Muslimūn*, one of the religious organizations known as radical, calling themselves *Salafiyah* which means it is the former. This term is technically indicate an attempt to follow the religious behavior based in al - Qur'an, Sunnah and the practice of previous pious people.<sup>20</sup> Islamic movements are oriented on law enforcement as Islamic Fundamentalists, as indicated by *Ikhwān al-Muslimīn*, *Hizbuttahrir*, *Jamaah Islamiyah*, dan *Islamic Salvation Front (FIS)*.<sup>21</sup>

Multiculturalism of Jama'ah Salahuddin and its development. In the context of Jama'ah Salahuddin, multiculturalism can be understood as a "middle way" of various campus organizations, especially when they were HMI and GMNI at the time. In other words, one of the goals of Jama'ah Salahuddin is to find a safe, neutral way to preach in overcoming the classic rivalry between HMI and GMNI which are mentioned above. It has also dedicated to be an independent preach organization in the university, not connected with the student extra organization. Or, as reformulated in *Boulevard*; commemorating the 20th anniversary of Salahuddin, the organization aims to create a form of propaganda that is free from the influence of practical politics. The focus of propaganda is the Muslim communities in and around University of Gadjah Mada. They never try to convert non-Muslims. One former chairman Salahuddin told the researchers: "we do not want anyone to change their beliefs to Islam. Our goal is to sharpen muslim commitment to Islam". In fact, researcher has never heard of a case where the "conversion to Islam" happened to Salahuddin.<sup>22</sup>

Salahuddin claimed that all Muslim students at UGM with any culture are its members, and all the programs that are provided to them as a propaganda media. Organization divides the target of propaganda into four categories:<sup>23</sup> 1) external groups, the people who do not understand and are not interested in Islam. It is the largest group and propaganda aiming to get them interested and then understand Islam by doing book fairs or popular Islamic studies. 2) Those who are interested, but according to Salahuddin activists, they did not really understand and not committed to Islam. Da'wah in this group is aiming to build their commitment to Islam. This is done by giving lessons

18 M. Amin Rais, *Cakrawala Islam*, Bandung: Mizan, 1987 Cet. 1, hal. 136-137.

19 Tarmizi Taher, *Anatomi Radikalisme Keagamaan Dalam Sejarah Islam*, dalam Bahtiar Efendy dan Hendro Prasetyo, *Radikalisme Agama*, (Jakarta: PPIM-IAIN, 1998), hal. 6.

20 Martin E. Marty dan R. Scott Appleox (ed): *Fundamentalism and the State, Remaking Politics, Economics and Militance*, Chicago: The University of Chicago Press, 1993, h. 153.

21 Olevier Ropy, *The Failure of Political Islam*, London: I.B. Tauris & Co. Ltd., 1994, h. 2.

22 Interview with....

23 Interview with JS ex-chairman 2013

and discussions of Islam, especially during Islamic big days. 3) Those who understand, interested and committed to Islam, but has not been involved in da'wah, by trying to deepen the commitment of Muslims through religious activities. It is a medium-leveled group. The propaganda method used for them is trying to maintain or restore their commitment to Islam by doing some khalaqah (intensive discussions) on Islamic issues. It aims to encourage them to engage in missionary activity. 4) Those who engage in missionary activity. This is the core group, and a propaganda activators itself. In defining the obligations of those who understand Islam to engage in propaganda efforts, the Salahuddin rule quotes a verse of the Qur'an, which means: "And let there be [arising] from you a nation inviting to [all that is] good, enjoining what is right and forbidding what is wrong, and those will be the successful." (*Ali Imran*: 104).

Thus, the real Saladin Jama'ah is very multicultural, not just having background from many disciplines (Medicine, Geography, Physics-Chemistry, Engineering [Nuclear, Architecture, Engineering, Industrial], etc., but also a variety of religious knowledge, ranging from the unreligious one up to the boarders. Salahuddin Jama'ah also seems to be pragmatic in becoming a "peacemaker" of the various university camp, especially HMI and GMNI. Naturally, one of the consequences to be borne by the Salahuddin Jama'ah is receiving both while rejecting both, in terms of campus practical politics.

Another element of multiculturalism is Jama'ah Shalahuddin members consists of academics, musicians, unreligious people and boarders. Most of academics who concerned about Salahuddin Jama'ah are UGM lecturers who have Islamic insights provide and can scientifically speech or speeches about Islam. Musicians of Jama'ah Shalahuddin members are dominated by campus extra organization in collaboration with off-campus traditional arts, such as puppet or the like and often staged at UGM. Unreligious people of Jama'ah Shalahuddin members dominate almost all members, both academics and the arts/musicians. There is also boarders who do not stay last long in Jama'ah Shalahuddin membership because it is seemed "less Islamic" for them.

Organizationally, multiculturalism elements in Shalahudddin can be seen from the personnel of vary socio-religious organizations, such as: **Chairman**: Efri Dian Kusuma (Geography 2010); **Secretariat General**: Muhammad Ali (Engineering Physics 2010); **Executive Secretary**: Khozainu Rohmah (West Asian Literature 2011); **Treasurer**: Ardani Latifah Hanum (Nursing 2010); **Sharia Entrepreneurship**: Nanang Sunardi (Management 2010); **Directorate of National Propagation**: Wening Mulat Asih (Chemistry 2010); **Special Bureau Regeneration**: Irfan Islami (Agriculture 2010), Mukhtar Witono (Accounting 2010); **Ervira Rushdiana** (Computer and Information Systems 2010), **Minuk Kusmiati** (Biology 2010), **Annisa Prita Rizkiana** (Physics 2010); **BP Faculty Propagation Institute**: Muhammad Lutf Firdaus (Psychology 2010); **Head of the Department of Services and Syiar**: Sri Wahyuni (Agricultural Engineering 2010); **Social**: Riri Dwika A (Anthropology 2011); **Femininity**: Lisa Nur Aeni (Forestry 2011); **Strategic Studies**: Fahmi Restu Fuadillah (Social Development and Welfare 2010); **Media Center**: Agus Aminanto (Electronics and Instrumentation 2010); **External**: Hardy Santoso S (Electronics and Instrumentation 2011).

Jama'ah Shalahuddin radicalism and its development. Seeing from its multiculturalism content, Salahuddin Jama'ah should not have any element of radicalism in religion. However, if it is examined more in-depth studies of the content of it, especially studies in the last 10 years, the radical element is noticeably in the discourse of the scriptualist, textualist, and fundamentalist.<sup>24</sup> As an example, in a study on Thursday-Sunday afternoon, an ustadz who fill the session said that Islam is the truest religion..."<sup>25</sup> At frst glance, there is nothing wrong with the statement. But

24 Governance structure document of Jama'ah Shalahuddin 2013

25 Recitation review of Jama'ah Shalahuddin on Thursday and Sunday afternoon at 15.30 until 17.30

understanding that emerged among Jama'ah Shalahuddin is considering another religion outside of Islam is wrong. This implicit assumption among the Jama'ah Shalahuddin became the seeds of radical understanding. While this is still a thought or understanding and not in action, but it is quite alarming.

This Jama'ah Shalahuddin view is because the majority of Jama'ah Shalahuddin is less religious people who then suddenly experience a "resurrection faith" and become the new boarders who studying Islam intensively with the spirit of Islam. But unfortunately, Jama'ah Shalahuddin did not examine Islam with enough scientific device the scientific device except to the extent "recitation"—differ it with study—that are popular. It can be seen clearly on the Ustadz who give tausiyah or preachers in studies Salahuddin Jama'ah. Most of them in fact do not have background of depth Islamic studies, but rather the background of general sciences, such as medicine, Physics, Chemistry, Geography, and so on. As an example, in a study on Sunday afternoon, speaker who filled Jama'ah Shalahuddin was a student majoring in Geography.<sup>26</sup>

Jama'ah Shalahuddin in this condition has implications for the quality of the result in Islamic studies. Views on substantial matters in Islam are only sourced from secondary holy book that is popularly studied. For example, the study was taken from the book of *Riyadush Sholohin* translations delivered by an academic who have less competence in it. Of course this way may not actually called "studies", but merely "recitation". Recitation generally examines only textual because the writer does not use related scientific device, such as *Ulumul Quran*, *Hadith Ma'anil*, *Ushul Fiqh*, and other related sciences, as well as its correlation with the actual phenomena present. As a result, the way of Salahuddin Jama'ah study did not arrive at meaningful substance of Islam but limited to textual messages which seem to be doctrinal-theological.

Based on the study of radicalism in the body of Jama'ah Shalahuddin above, it can be concluded that the Jama'ah Shalahuddin conceptually is very radical, but socially, is very plural. It seem a contradiction, but it seems this is the way Jama'ah Shalahuddin chose to "save themselves" from various other student organizations.

Mainstreaming of multicultural education for Radical Islamic Movement. In the context of Jama'ah Shalahuddin, multicultural education can be interpreted as an offer of alternative pedagogical practices that take advantage of the diversity of disciplines (Medicine, Geography, Physics, Chemistry, Mathematics, etc.), class (HMI and GMNI), ethnicity (tribal UGM students who come from various regions), religion, and so forth. In other words, this multicultural education is investigated from Jama'ah Shalahuddin religious practices which—as mentioned above, conceptually tend to be radical but in social practices tend to be plural.

Thus, the meaning of mainstreaming multicultural education for radical Islamic movement is mainstreaming multiculturalism (respect for differences) without diluting the identity of the characteristics of each, including radical ideas though. In this case, the interesting quote of interview with Shalahuddin Jama'ah is stated here: "It is not like that, small samples of student extra organization in UGM are 4; joint secretary of sports, arts, mapalaska, cooperation, spirituality like Jama'ah Shaluhiddin, Mass Catholic, Christian, Hindu Dharma, and Buddha. From this multicultural situation, which we understand it, is takken progrented. the condition is already like that, because multicultural in Jama'ah Shalahuddin coming from a wide range of motion instead of creating a wide range of motion. The reality is that there is already an existing movement before, and some of them want to get in Jama'ah Shalahuddin, so we accepted them. So, how do we create a system, when there is always argument fght, they could had always understanding the difference

---

26 Recitation document of Jama'ah Shalahuddin on Sunday afternoon, September 22nd 2013.



each time. Because the implied vision of Jama'ah Shalahuddin in the field of regeneration is makes people understand their choices. So when Jama'ah Shalahuddin cadres come out, they will choose what they want to be later, and not thinking about Jama'ah Shalahuddin own agendas that affect change in their minds. That is to understand the difference of thoughts that should be based on a mature ideology. Not that he only knows this thought, but indifferent toward other thoughts."<sup>27</sup>

Based on quotes above, it is clear that the praxis reality of Jama'ah Shalahuddin is promoting multiculturalism. They also recognize that in the process there is argument fight, but it is not an obstacle to unite. That is, the praxis of social life in Shalahuddin prioritizes or mainstreams multiculturalism. But in conceptually thought, they survive and fight for his opinion in the midst of differences. In other words, they can live and thrive in multicultural society, but in this society, they have a radical thought in their respective fields. This seems contradiction, but Jama'ah Shalahuddin deliberately chose that path with reason 'for safety' of various conflicts so that they can make peace in the surrounding contradiction.

## E. CLOSING

Factors that affect the spread of radical Islamic movements from Islamic traditional boarding schools and sala f schools to public schools and universities are: *first*, the background students come from less religious. *Second*, experiencing sudden revival of faith and studying Islam intensively since they become student. *Third*, reciting Islam from the popular recitation forums lead by of ustadz who are less competent in Islamic studies. *Fourth*, an attitude of people that tends to seek a safe zone without any effort for seeking a deeper understanding of the misunderstanding conflict.

The process of spreading radical Islamic movement starts from the pulpits of popular lectures followed by most less religious people and accept Islam as a simplification. For example, the concept of Jihad is supposed to be served by ustadz who are less knowledgeable about religion, so it causes in a misconception. Those who understand Islam in a "false concept" then build up the communities that led to the potential for radical movements.

Based on the review of the Jama'ah Shalahuddin, mainstreaming multicultural education for radical Islamic movements can be done by promoting respect for diversity without distorting the respective radical thought.

## REFERENCES

Abdul Munip, "Menangkal Radikalisme Agama di Sekolah", *Jurnal Pendidikan Islam*, Volume I, Nomor 2, Desember 2012/1434

Abdullah Fadjardkk, *Laporan Penelitian Islam Kampus*, Jakarta, Ditjen Dikti Depdiknas, 2007

Abudin Nata, *Peta Keberagaman Pemikiran Islam di Indonesia*, Jakarta: Raja Grafindo Persada, 2001, Cet. 1

Agus Salim, *Perubahan Sosial, Sketsa Teori dan Refleksi Metodologi Kasus Indonesia*, Yogyakarta: Tiara Wacana, 2002.

Agus Moh. Najib, Ahmad Baidowi dan Zzainudin, "Multikulturalisme dalam pendidikan islam (studi terhadap uin yogyakarta, iain banjarmasin, dan stain surakarta)", dalam <http://idb3.wikispaces.com>.

<sup>27</sup> Interview with Muhammad Arwyn (physics engineering, 2008), ex-Secretary General of Jama'ah Shalahuddin, 2008 (Sunday, September 29th 2013).



Ahmad Asroni Dan Indriyani Ma'rifah, "Model Pendidikan Multikultural Dalam Pendidikan Islam", *Jurnal Muqoddimah*, vol. 19, no. 1, 2013, hal. 96-98

Akbar S. Ahmed, *Posmodernisme Bahaya dan Harapan Bagi Islam* (terj.), Bandung: Mizan, 1994, Cet. 4

Benny Susetyo, *Politik Pendidikan penguasa* (Yogyakarta: Lkis, 2005), etl.

Bikhu Parekh. "What is Multiculturalism?" dalam *Jurnal India Seminar*, Desember 1999.  
Raz J.. *Ethics in Public Domain: Essays in the Morality of Law and Politics*, Oxford: Clarendon Press, 1996.

Charles Taylor. "The Politics of Recognition" dalam Amy Gutman. *Multiculturalism, Examining the Politics of Recognition*, Princenton: Princenton University Press, 1994.

Edy Kristiyanto OPM, *Perspektif-perspektif Historis Tentang Radikalisme Religius dalam Agama Katolik, Dalam Radikalisme Agama*, Bakhtiar Efendy (ed), Jakarta: PPIM-IAIN, 1998.

Fazlurrahman, *Islam and Modernity: Transformation of an Intellectual Tradition*, Chicago: The University Press, 1984

Gregory Jay. "Critical Contexts For Multiculturalism" dalam <http://www.uwm.edu/~gjay/Multicult/contextsmulticult.htm>, download 2 Desember 2005

H.A.R. Tilaar, *Multikulturalisme; Tantangan-Tantangan Global Masa Depan dalam Transformasi Pendidikan Nasional*, Jakarta: Grasindo, 2002.

James P. Spradley, *Participant Observation*, New York: Holtz, Rinehart dan Winston, Pub. Inc. 1980.

Kartono, Kartini. *Sistem Pendidikan Nasional*, Jakarta: Pradnya Paramita, 2004

Khamani Zada, *Islam Radikal Pergulatan Ormas-ormas Islam Garis Keras di Indonesia*, Bandung, Teraju, 2002, Cet. 1.

Kuntowijoyo, *Identitas Politik Umat Islam*, Bandung: Mizan, 1997

Lexy J. Moleong, *Metodologi Penelitian Kualitatif*, Bandung: Remaja Rosda Karya, 1989

Lincoln & E. G. Guba, *Naturalistic Inquiry*, California: Sage Publications Inc. 19985.

M. Amin Rais, *Cakrawala Islam*, Bandung: Mizan, 1987 Cet. 1

Marty E. Martin dan R. Scott Appleby, *Introduction, Fundamentalism Observed*, Chicago: University of Chicago Press, 1993.

Martin E. Marty dan R. Scott Appleox (ed): *Fundamentalism and the State, Remaking Politics, Economics and Militance*, Chicago: The University of Chicago Press, 1993.

Martin Van Bruinessen, (1995), *Kitab Kuning, Pesantren dan Tareqat*, Bandung: Mizan, 1995.

Muhyi Batubara, *Sosiologi Pendidikan*, Jakarta: Ciputat Press, 2004.

Muhammad Abid al-Jabiri, *Agama, Negara dan Penerapan Syariah*, Yogyakarta: Fajar Pustaka, 2001.

Muhammad Said al-Asmuni, *al-Islam al-Siyasi*, Kairo: Arabiyah li al Thiba'ah wa al-Nasyr, 1992.

Noeng Muhadjir, *Metodologi Penelitian Kualitatif* (ed. IV), Yogyakarta: Andi Offset, 2002.

Noorhaidi Hasan, "The Salaf Madrasas of Indonesia" dalam Farish A. Noor, Yoginder Sikand & Martin van Bruinessen (eds.), "The Madrasa in Asia, Political Activism and Transnational

Linkages, *e-book*, Amsterdam: Amsterdam University Press.

Norman K. Denzen, *The Research Art: A Theoretical Introduction to Sociological Methods*, Enfewood Cliffs N. J: Prentice Hall, 1989.

Olever Ropy, *The Failure of Political Islam*, London: I.B. Tauris & Co. Ltd., 1994.

Pamela Maikut & Richard Norehous, *Beginning Qualitative: A Research Philoshopy and Pracyical Guide*, London: Washington, d.c, 1994.

Piotr Sztompka, *Sosiologi Perubahan Sosial*, Terj., Jakarta : Prenada, 2008.

Ryadi Gunawan, *Transformasi Sosial Politik: Antaran Demokratisasi dan Stabilitas*, dalam M. Masyhur Amin (ed) *Agama, Demokrasi dan Transformasi Sosial*, Yogyakarta: KPSM, 1993

Robert W. Hefner, *Civil Islam: Islam dan Demokraasi di Indonesia*, Jakarta: ISAI, 2001.

R. William Liddle, *Skripturalisme Media Dakwah, Suatu Bentuk Pemikiran dan Aksi Polotik Islam di Indonesia Masa Orde Baru*, dalam Mark Woodward (ed) *Jalan Baru Islam, Memetakkan Paradigma Mutakhir Islam Indonesia*, Bandung: Mizan, 1999.

Setna Krisna Sumargo, *Noordin M. Top dan Co. The Untold Stories*, Jakarta: Gramedia, 2009.

Steve Fuller, "Social Epistemology as a Critical Philosophy of Multiculturalism" dalam Ram Mahalingan dan Cameron McCarthy, *Multiculturalism Curriculum*, 2002.

Scott Lash dan Mike Featherstone (ed.), *Recognition And Difference: Politics, Identity, Multiculture*, London: Sage Publication, 2002.

Tarmizi Taher, *Anatomi Radikalisme Keagamaan Dalam Sejarah Islam*, dalam Bahtiar Efendy dan Hendro Prasetyo, *Radikalisme Agama*, Jakarta: PPIM-IAIN, 1998.

Yusril Ihza Mahendra, *Fundamentalisme, Faktor dan Masa Depan*, dalam M. Wahyu Nafs, *Rekonstruksi dan Renungan Religius Islam*, Jakarta: Paramadina, 1996, Cet. 1.

## THE DEVELOPMENT OF MATHEMATICS LEARNING PRODUCTS BASED MULTIPLE INTELLIGENCES

by:  
Luluk Mauluah  
PGMI FITK UIN Sunan Kalijaga  
m.luluk@yahoo.com

---

### ABSTRACT

This study aims to produce products of math learning based multiple intelligences such as math films.

The method used in this study is the research and development follows the model of Borg & Gall. Subjects in this study were students in the fourth semester of PGMI (Education of Primary Islamic School Teachers) department year 2012/2013. The technique of collecting data used was a questionnaire. Procedure of the development include: planning, organizing, implementation, and assessment of the final product.

The result of this research concluded (1) (a) There are 2 films those are Film 1 and Film 4 created by students as the remedial of mid-semester test of math study 2 in fourth semester year 2012/2013. (b) The competence that exists in the film 1 is to understand the comparison and its application, while in the film 4 is to understand KPK-FPB and roots-ranks and logarithms. (c) Film 1 can be accessed on <http://youtu.be/we8r90xFEIE>(FILM MATEMATIKA PGMI UIN SUNAN KALIJAGA MOVE ON!). Film 4 can be accessed on <http://youtu.be/r7-5TuH4alw>(FILM MATEMATIKA PGMI UIN SUNAN KALIJAGA MI ISLAM ALHAQ). Student's perceptions showed that math learning based multiple intelligences contribute in linguistic, kinesthetic, musical, existential, logical-mathematical, visual, and intrapersonal with high category, except for the very high interpersonal intelligence and natural intelligence in medium category. (3) The result of assessment in the last product: Both of the films include the very good category according to material expert and those include good category according media expert.

**Keywords:** *learning product, mathematic study, multiple intelligences*

### A. INTRODUCTION

Organizing lectures in PGMI Department facilitates various subjects including mathematics. Mathematics as principal subjects in SD/MI should be mastered well by all prospective teachers in MI/SD. Mathematics is taught at primary and secondary level aims to equip students with the ability to think logically, analytical, systematic, critical and creative. Also to be able to use mathematics to communicate ideas or concepts using symbols, tables, diagrams and other media<sup>1</sup>. It also has the ability to manage and utilize the information to survive in the conditions which always change, not sure and competitive. This is due to the development of science and technology that enables all

---

1 Ibrahim dan Suparni, Strategi Pembelajaran Matematika (Yogyakarta, Bidang Akademik UIN Sunan Kalijaga: 2008)page:36

parties can obtain abundant information, quickly and easily from a variety of sources and places in the world, besides the fast growth, the changes also occur rapidly<sup>2</sup>.

The theory of Multiple Intelligences developed by Howard Gardner was officially introduced in 1983 through his book *Frames of Mind* which were revised with *Intelligence Reframed* in 1999<sup>3</sup>. The development of multiple intelligences of this study led to a new consciousness, that human beings are created in diversity, and should receive this as a gift that can be a positive potential for mutual support, not as a potential difference to each other being selfish.

Researchers have carried out some form of mathematic lecture based multiple intelligences. Among others, a math exhibition projects: which consists of several parts: math material, visual aid and manipulative materials, slogans and mathematics songs and mathematic posters. Implementation of the course also consists of mathematics quiz contest with each student playing the role of a citizen group madrasa of certain areas. From the implementation of the model classes, when conducted research produce a positive influence with the result: Implementation of multiple intelligences-based mathematics instruction with visual aid, games and quiz competition design can develop not only logical-mathematical intelligence but also linguistic, kinesthetic, musical, visual, interpersonal and intrapersonal. Mathematics learning based multiple intelligences had a positive effect on the character of the student with 95% confidence level<sup>4</sup>. After evaluating the course in the previous semester and year, it turns out no one has developed a learning product based multiple intelligences. Intention of the learning product here is something that is made by a student that can be widely accessed by students and observers of mathematics learning.

Starting from student's remedial activities that are getting some scores less than the minimum standard, then formed a group to make a video/film with Math 2 lecture material and its learning. The target of the group task is that students who get remedial can role as a teacher or a person who can explain the lecture material, which is shown in video format.

Based on some of the videos that are produced, researchers are encouraged to further develop it into a research of development mathematic learning product based multiple intelligences.

From the description above, the problem that can be formulated is: How do the characteristics of mathematics learning products based on multiple intelligences produced in PGMI? How do students' perceptions of the contribution of learning mathematics with the multiple intelligences to the complex intelligences? What is the quality of mathematics learning products based on multiple intelligences according to the expert judgments?

## B. STUDY OF THEORY

### 1. The Nature of Learning

The term 'learning' in the Merriam-Webster dictionary is: to gain knowledge, understanding, or skill by study or experience<sup>5</sup>. While 'study' is defined as: to consider attentively or in detail<sup>6</sup>. It means that learning is acquiring knowledge, understanding or skills through observation or attention in full or based on experience. In other hand, Ibrahim & Suparni said that learning includes three

2 Departemen Pendidikan Nasional, Kurikulum KTSP.(Jakarta:2006) Depdiknas

3 Ibid, page: iii

4 Penelitian *quasi eksperiment* dana Fakultas Tarniyah year 2012

5 Merriam-Webster, New Merriam-Webster English Dictionary. Massachussets: Inc. of Springfield (1989):page. 420

6 (Merriam-Webster, 1989: 712).



things: preparation, execution, and purpose or learning outcomes<sup>7</sup>.

Based on the explanation of a wide variety of definitions of learning or learning can be summarized that learning is a process of changes made by the students themselves to acquire knowledge, understanding, attitudes, beliefs and skills through full attention or experience, which is done through the 3 stages of preparation, implementation and achievement of goals.

## 2. Reality of Mathematics

Etymologically, mathematic means knowledge gained by logical reasoning. Mathematics has a root word meaning 'mathema' which means knowledge or science. According Elea Tinggih mathematic means knowledge which obtained by logical reasoning<sup>8</sup>. The characteristics of mathematics as a deductive science does not accept generalizations based on observation (inductive), but must be based on logical proof<sup>9</sup>.

Reys and friends said<sup>10</sup>:

"...Mathematics is a study of patterns and relationships, is a way of thinking, is an art, is a language, and is a tool...."

It means, Reys and colleagues state that mathematics is research and study of patterns and relations, a road or way of thinking, an art, a language and a tool. And Kline explained that the math is not separate knowledge that can perfect itself but because of the presence of mathematics it can help people to understand and know the problems of social, economic and nature<sup>11</sup>. While Gatot Muhsetyo convey the sense of mathematics learning is the process of providing learning experiences to students through a series of activities are planned so that students gain competency about mathematics learning material<sup>12</sup>.

## 3. Learning products

According to the Oxford Paperback Dictionary & Thesaurus Dictionary<sup>13</sup> meaning of 'product': Product (noun): 1) An article or substance manufactured for sale 2) A result of an action or process 3) A substance produce during a natural, chemical or manufacturing process 4) Math's Multiplying a quantity by one number by another.

## 4. Mathematics Learning Product Type

Remember the type, if the type of learning products are similar with the media or teaching materials, then according to Gatot Muhsetyo distinguish and classify the media in different aspects, they are: 1) From the material, in the printed media and non-printed media, 2) Of the impressions, a projection media and non-projection media, 3) From the electricity, in the form of electronic media and non-electronic, and 4) From the measure of progress, a simple and modern media. Such tools can be shaped as board (board, paste), all forms of print (books, worksheets, modules, practice guidelines), all forms of electronic materials (calculator, radio, TV, VCD, computers, internet, LCD<sup>14</sup>)

Another case when it similar with the teaching materials, according to their shape teaching

7 Ibrahim dan Suparni. Strategi Pembelajaran Matematika. Yogyakarta: Fak. Saintek UIN Sunan Kalijaga(2008) hal.50

8 Erman Suherman dkk, Strategi Pembelajaran Matematika Kontemporer (Bandung, UPI: 2003) page 15-16

9 Erman Suherman dkk, Strategi Pembelajaran Matematika Kontemporer (Bandung, UPI: 2003)page 15-16

10 Reys et al, Helping children learn mathematics. (Fifth edition; Boston: Allyn and Bacon, 1998)page.2

11 Opcite, hal 17

12 Gatot Muhsetyo: Pembelajaran Matematika SD. Jakarta:Universitas Terbuka(2009) page.26

13 Oxford & Thesaurus. Paperback Dictionary (Oxford University Press;2009)page: 730

14 Gatot Muhsetyo: Pembelajaran matematika SD (2009):page 2.1

materials are distinguished into 4 types (Andi Prastowo, 2012: 40), those are: printed materials, teaching materials or hear audio programs, instructional view, and heard materials or audiovisual, and teaching interactive materials.

## 5. Video and Film in Learning Mathematics

More specifically, the definition of 'videos' can be explained by Kamus Besar Bahasa Indonesia<sup>16</sup>. Video is a live image or recording television programs through the television show. In other words, a video is a moving picture show with sound<sup>17</sup>. According to Indonesian dictionary (KBBI) film is a live picture or play of a live picture story<sup>18</sup>. So in general it is not very different between video and film. The characteristics of the film, both the advantages and limitations have many similarities with video. According to Andi Prastowo there are 8 steps<sup>19</sup> for creating a program in instructional videos or films are: Finding the title matches with the basic competencies, manufacture synopsis that describes briefly and clearly about the material that will be discussed in the video, story board drafting, image capture, editing, assessment the substance of the program both of education and cinematography, giving the task at the end of the screening and assessment of a given task.

## 6. Learning Approach to Multiple Intelligences Understanding Multiple Intelligence

Various views of intelligence at the limited scope motivate Gardner brilliantly convey the idea of multiple intelligences. Howard Gardner in his book *Frames of Mind* brilliantly describes eight intelligences that can be used to measure the intelligence of children. The eight intelligences are: logical and mathematical intelligence capabilities, musical, bodily kinesthetic, linguistic, spatial, interpersonal, and intrapersonal and naturalist<sup>20</sup>. In 2002 Colin Rose and Nicholl convey there is an additional intelligence to the 9 that is spiritual intelligence/existential<sup>21</sup>.

To jump-start the ability of each student, it is necessary to understand the characteristics of a person in terms of the myriad of 9 intelligences<sup>22</sup>:

### Linguistic intelligence

Linguistic intelligence is the ability to use words effectively, orally and in writing.

### Logical-Mathematical Intelligence

Logical mathematical intelligence is the ability of a person with respect to a series of reasons, recognize patterns and regularities<sup>23</sup>.

### Visual - spatial intelligence

Visual da spatial intelligence is the ability to think in terms of image and towards a place or space and 3 –dimensional<sup>24</sup>.

16 Suharso dan Ana Retnoningsih, KBBI (CV Widya Karya, 2011)page 630

17 Andi Prastowo, *Panduan kreatif membuat bahan ajar inovatif*(Diva Press, 2012)page 300

18 Suharso dan Ana Retnoningsih, KBBI (CV Widya Karya, 2011) page 140

19 Andi Prastowo, *Panduan kreatif membuat bahan ajar inovatif*(Diva Press, 2012) page 313

20 Thomas Armstrong, *Setiap anak cerdas (Panduan membantu anak belajar dengan memanfaatkan multiple intelligence)*, USA: ASCD: 2005;page 18

21 Colin Rose dan Malcolm J. Nicholl, *Accelerated Learning for the 21st century; Cara Belajar Cepat abad 21* (Bandung, Nuansa: 2002) page 60

22 Thomas Armstrong, *Setiap anak cerdas (Panduan membantu anak belajar dengan memanfaatkan multiple intelligence)*, USA: ASCD: 2005;page 22-40

23 Kezar, *Theory of Multiple Intelligences: Implication for Higher Education*, Innovative Education, vol 26, No 2, Winter: 2001

24 Sonawat and Gogri, *Multiple Intelligences for Preschool Children*; Mumbai:Multi-Tech Publishing co (2008)

### **Bodily - kinesthetic intelligence**

Bodily-kinesthetic intelligence is the ability of physical intelligence to use whole of body in expressing ideas, feelings, and use your hands to produce or transform things<sup>25</sup>.

### **Rhythmic intelligence - music**

Rhythmic intelligence is the ability to enjoy the music, observe, distinguish, fabricate, and forming and expressing the music.

### **Intrapersonal Intelligence**

Intrapersonal intelligence is the ability to understand itself and act on the understanding about it<sup>26</sup>.

### **Interpersonal Intelligence**

Interpersonal intelligence is the ability to understand the behavior, attitudes and thoughts of others<sup>27</sup>.

### **Naturalist intelligence**

Naturalist intelligence is the intelligence to recognize, differentiate, express, and create categories to what is found in the natural environment.

### **Existential intelligence - spiritual**

The definition of spiritual intelligence is the capacity of a human life that comes from the heart, inspired in the form of nature to be developed and grown in, overcoming the difficulties of life<sup>28</sup>.

## **7. Model and Learning Activities with Multiple Intelligences**

Method or strategy of learning with multiple intelligences are as follows<sup>29</sup>. (1) Linguistic intelligence: the listening, reading and writing (2) Logical-mathematical: developing a scientific learning environment, using logical reasoning, and using the numbers (3) Kinesthetic: using classroom physical environment, through drama, creative movement, dance, play instruments and games. (4) Visual - spatial; using images and forms (5) Musical: using music, make a song, using or making musical instruments (6) Interpersonal: create a group, learning with cooperation and respect differences and also the giving tasks, project design (7) Intrapersonal : observation per individual, increased self-confidence, preparing reports/personal journal. (8) Naturalist: using objects in nature around (9) Existential: integrated with religiosity students

## **C. METHODS DEVELOPMENT RESEARCH**

**Procedures performed in research development is composed of 4 stages:**

### **1. Phase I (Planning)**

At this stage the researchers prepare all materials include:

- a. Mathematics 2 SAP and It's learning.

25 Muhammad Yaumi, Pembelajaran Berbasis Multiple Intelligences (Jakarta: Dian Rakyat, 2012) page. 17

26 Ibid, page 20

27 Ibid, page 21

28 M. yaumi, page. 25

29 Isniatun Munawaroh, Pengembangan RPP Berbasis Multiple Intelligences: page 3-6

- b. collect and provide references related to mathematics learning based multiple intelligences and reference and results about the film research.
- c. Collect data 7 films or videos made by students.

## 2. Phase II (Organizing)

At this stage the researchers began to analyze which is the used material, which materials are interrelated and determine the shape and specifications of films that will be used or will be developed.

- a. Analyzing the Competency of basic subjects of Mathematics 2 whether all has been stated in the films made by the students or not.
- b. Analyze how the student product 7 film storyline, the implementation of teaching methods and strategies.
- c. Ask for input to the expert on the grille good film.

## 3. Phase III (Implementation)

- a. Ask for input to 1 peer reviewer that is a lecturer in mathematics who have an understanding of the mathematical material.
- b. Revise the film and select it based on input of expert media.

## 4. Phase IV (Assessment)

- a. Validation of the film products that have been revised by the expert of film media. In this process the expert gives judgment over the final product.
- b. Trial by uploading to 'Youtube' and social media and requesting direct comment from the audience. (Students and students of SD/MI)

## D. RESULTS AND DISCUSSION

### 1. Implementation and Process of Mathematics Learning Based on Multiple Intelligences

At the 15 meeting is to discuss the results of Mid-Semester Test of 2 classes, they are class A and class B. There are 5 students in the class A (Asep, Umi Fauziah, Vikriyani, Fera and Ahmad Agus Eka Prasajo) and 2 students in class B is Singgih and Nur Hanif whose had score is less than 50 and the maximum amount that can be achieved 100. Based on this fact we need to hold remedial programs for students who scored less than the 50.

16 meeting is to discuss follow-up remedial. The shape of remedial are: a group assignment to make a film with a target: students who score less than 50 are able to master at least two topics or two questions in mid-semester test. The Implementation, he/she can act as a teacher who can explain the material in question, or make any other sort of scenario. The 18th meeting is collecting the task and screening the film.

### Data Description of Seven Films

#### Film 1 (Move On Matematika)

Description of film: Starting accompaniment tracks, it looked atmosphere of Adisucipto road ahead UIN SunanKalijaga, and displayed the gate to the campus Faculty of Tarbiyah and Teaching. Once it looks classroom atmosphere full of wayward students.

#### Film 2 (Film Pendek)



Showed various grades of cast test results for the purpose of opening a story that begins as the problem of understanding the lessons learned. Then at the beginning of the story the students who have difficulty with the material given are gather in study so that no remedial learning in the future if there is another task.

### **Film 3 (Widya-KPK dan Persamaan Garis)**

Narrated that Afrilia and Widya are meet and giving greeting with the topic being warmed about mathematics 2 and its learning. Then at the beginning of the story Vikriyani role as a teacher who teaches his friends about the mathematical material that has been given to the midterms. Here the discussion of the Commission and FPB factor tree after it in the subsequent discussion compute algebraic equations used to determine a straight line with a gradient as the root of the problem.

### **Film 4 (Matematika di MI Islam Al-Haq)**

Consist a story about students of MI on going to their dream school. But the subject matter they are inhibited about math-related material and KPK-FPB logarithm. Explain about the material that becomes problem by the students.

### **Film 5 (Film 233)**

At the beginning of the story to the students came to discuss the mathematical material that has been given in the form of a matter of Mid-Semester Exam. Fera then explained to her friends about the material that it is difficult to do. After that, each student is welcome to try the matter has been discussed in order to gain a deeper understanding.

### **Film 6 (MATEMATIKA)**

Film Description: Tells about a group of students who have difficulty learning about math courses. Ahmad then come and explained the subject matter discussed in the Middle Semester Exam number 3 and number 4. Then other friends asked and asked for an explanation to Ahmad.

### **Film 7 (Video Pembelajaran Matematika)**

Students studying together in the library looking for the mathematical material they are Yulia, Rohmatul, and Umi. Then the next morning they met in college and shared learning with Umi as a teacher and taught her friends the difficulty of mathematical material. In the discussion by Umi that is used using different methods with balloons and paper to discuss subject KPK and FPB then followed by discussion of the logarithm with Umi as the teacher who taught her friends.

## **Data Analysis of Assessment Material Expert**

Instrument of product assessment by experts based films prepared lattice: basic competence, language, learning, strategy and media.

Results: 1, 4 and 7 films in the category very well, then the film 2, 3, 5 and 6 in the category good in the material. However, the film 3 still need to be revised based on the input of experts. It should be made clear when explaining the line, especially on the positive-negative gradient, the case of parallel or perpendicular and passing through the point (a, b)

## **Data Analysis of Assessment Media Expert**

Analysis of the data follows media expert which uses instrument drawn up by media experts, Mr. Andika Dwijatmiko, S.Sn team from Syafa'at Marcomm.

There are four films that can be revised to be tested/uploaded those films 1, 2, 4 and 6. The 3, 5 and 7 film does not deserve to be tested/uploaded.

### Revised the Product

Remember the limitations of time, from 4 films gets expert recommendations for revised only 2 films with the highest score made revisions. Two of the film is the film down 1 and 4. Film revision- editing done by films technicians assisted by the students. Revision refers to the input of the expert is to add the music to the film since the title is displayed. Eliminate the numbering after the title, because it has entered the core of the film. And also a reduction in the duration of the cast credits roll.

### Final Product Assessment

The final product of this research is two revised mathematics films and expert assessment. Based on the initial idea of the preparation, the film was made based on the basic competencies to be achieved based on the score of Mid-semester test. The basic competency is a basic competence in SAP Mathematics 2 and its Learning was at 1-14 meeting. Because 1-3 meeting is the practice, the basic competencies evaluated on the basis of Mid-semester test competence is meeting 4-14. The basic competencies include understanding the roots and logarithms rank numbers, primes understand, KPK\_FPB and solving its problem, understand comparison and its application and understanding the Cartesian coordinates. In the first film the student chose number 4 and 5 of UTS questions, means the film contains basic comparison and applied competence. In the film about 4 students chose number 1 and 3 means the film contains basic competence and understanding KPK\_FPB square root and logarithm.

Questionnaire to obtain data on how much the learning of mathematics on the basis of multiple intelligences encourage the growths of other intelligences arranged meet 5 different scores. Strongly agree was given a score of 5, agreed to be given a score of 4, abstentions: 3, does not agree: 2 and strongly disagree with a score of 1. Questionnaire consists of 20 items that need to be responded statement. Based on the results of a questionnaire study of 10 students of multiple intelligences, the obtained results: the growth of all intelligences compound in the high category, except the natural intelligence in the medium category and the category of very high interpersonal intelligence.

Assessment of media experts on the final product refers to both categories in both films, the first film score was 36 and the film 4 is 37.

### Conclusions

Based on the results of research and discussion in chapter IV the following conclusions can be drawn.

1. The characteristics of the final product of math learning based multiple intelligences in this study are : (a) There are two films which films 1 and 4 films made by students of the Mid-semester test remedial Mathematics 2 courses and its learning was semester 4 year 2012/2013. (b) The existing of competencies in the film 1 is to understand the comparison and its application, while in the film 4 is to understand the KPK and FPB, dub roots and logarithms. (c) Film 1 can be accessed at: <http://youtu.be/we8r90xFEIE> (FILM MATEMATIKA PGMI UIN SUNAN KALIJAGA MOVE ON!). As for the film 4 address that can be accessed is: <http://youtu.be/r7-5TuH4alw> (FILM MATEMATIKA PGMI UIN SUNAN KALIJAGA MI ISLAM AL HAQ).

2. Students' perceptions Showed that mathematics learning based on multiple intelligences contribute

linguistic, kinesthetic, musical, existential, logical-mathematical, visual, and intrapersonal with high category, moderate to very high interpersonal intelligence and natural intelligence to medium category.

3. The results of expert judgment on the final product: the two films are very well categorized according to expert materials and well categorized according to media experts.

## REFERENCES

Azis Nurkholik "Analisis Penerapan Strategi Pembelajaran Matematika Berbasis Multiple Intelligences System di SMP Yayasan Islam Malik Ibrahim Gresik Full Day School", IAIN Walisongo, 2011.

Bairus Salim, "Pembelajaran Multiple Intelligences (Telaah dari sudut Pandang Islam)" IAIN Sunan Ampel, 2008

Colin Rose dan Malcolm J. Nicholl, *Accelerated Learning for the 21<sup>st</sup> century; Cara Belajar Cepat abad 21 (terjemahan)* (Bandung, Nuansa: 2002)

Depdiknas. (2009) *Dimensi Kompetensi Kepribadian & Kompetensi Sosial* (Bahan Belajar Mandiri Musyawarah Kerja Pengawas Sekolah), Jakarta: Direktorat Jenderal Peningkatan Mutu Pendidik Dan Tenaga Kependidikan] dari <http://akhmadsudrajat.wordpress.com/2010/01/25/kompetensi-sosial-pengawas-sekolah-kerja-sama/> (1 September 2012; pukul 12.05)

Endang Sulistyowati dan Luluk Mauluah, *SAP Matematika 1 dan Pembelajarannya* (PGMI, 2012)

-----, *SAP Matematika 2 dan Pembelajarannya* (PGMI, 2012)

Erman Suherman dkk, *Strategi Pembelajaran Matematika Kontemporer* (Bandung, UPI: 2003)

Ibrahim dan Suparni, *Strategi Pembelajaran Matematika* (Yogyakarta, Bidang Akademik UIN Sunan Kalijaga: 2008)

Isniatun Munawaroh, *Pengembangan RPP Berbasis Multiple Intelligences* (2011)

Kennedy, L. M., Tipps, S., & Johnson, A. *Guiding children's learning of mathematics*. (Belmont: Thomson Wadsworth ; 2008)

Kezar, *Theory of Multiple Intelligences: Implication for Higher Education, Innovative Education*, vol 26, No 2, Winter: 2001

Luluk Mauluah, *Implementasi Pendekatan Konstruktivisme dalam Pembelajaran Bilangan Bulat di PGMI, Al Bidayah* vol I no 12 Desember 2009

-----, Pengaruh Penggunaan Strategi Pembelajaran Matematika Berbasis *Multiple Intelligence* terhadap Karakter Mahasiswa. Yogyakarta: Hasil Penelitian Fakultas Tarbiyah. 2012

Merriam-Webster Dictionary, Massachusetts 1989

Muhammad Yaumi, *Pembelajaran Berbasis Multiple Intelligences* (Jakarta, Dian Rakyat: 2012)

R. Hunter, B. Bicknell, & T. Burgess (Eds.), *Crossing divides: Proceedings of the 32nd annual conference of the Mathematics Education Research Group of Australasia* (Vol. 1). Palmerston

North, NZ: MERGA. (2009)

Robert E. Reys, et all, *Helping Children Learn Mathematics* (Allyn and Bacon, America, 1998)

Sugiyono, *Metode Penelitian Kuantitatif, Kualitatif dan R&D* (Bandung, ALFABETA, 2009)

Thomas Armstrong, *Setiap anak cerdas (Panduan membantu anak belajar dengan memanfaatkan multiple intelligence)*, USA: ASCD: 2005





## A REFLECTION OF A BASED ON CHARACTER BUILDING EDUCATION

Written by:

Maemonah

Faculty of Tarbiyah UIN Sunan Kalijaga Yogyakarta

=====

### ABSTRACT

The latest issue of education discourse in Indonesia is an education based on character building. There are many factors which pushes to fourish the discourse. There are also hopes and targets which will be reached from the fowing issue. Eventough, the simple question appears in our minds, as a part of society which contributes in education feld. Is it true that the character building education is an education discourse which relatively new, promises the education advancement in Indonesia. Particularly, is it the education construction which must be applied as a model for the future education in Indonesia?

The questions about character building education show how important the deep explanation to avoid misunderstanding, either it deals with the essence of concept or its realization in the practice of education. As the effort to contribute the thought of the discourse, this paper tries to formulate some points of thought, particularly in the feld which perhaps more substantive from the writer's opinion. With the substantive dimensions choice of the discourse of character building education. Historic-philosophical perspective, as an approach, will color this paper. Historic perspective will analyze the conceptual roots which go along with the character building concept, while the philosophical perspective is applied to analyze the substantive side and the relevance between some elements which exist in the discourse of character building education.

**Keywords :** *Education, Method, Character*

### A. Introduction

Character education is needed because of the moral degradation in the society and nation in this reformation era now. The reality of value crisis which falls on the youth becomes the anxiousness to the people. So, the character education is hoped to be a solution for the nation social problem lately. The people expectation towards the contribution of concept, like the concept of character education, it has to be gone along with the ideas about the character education which more comprehensive and applicative. Using those ideas, these can be applied to be a part of thought contribution which can help to achieve those expectations and the thought contribution which can utter the solutions of the problems above.

But, to formulize the character education is not that easy. The obstacle begins with the appearance of the imbalance discourse of the character itself. Is it a part of education discourse or the character itself becomes the discourse in morality, psychology, anthropology, or others. If it becomes the education discourse, what is the difference with the moral education, is the character education itself mean the value education, self education. Another imbalance appears to be a context

of character education as an education vision, character education as a curriculum and character education as an approach in the learning process. The point is there are imbalances in the character education field, either in the discourses, methodology, or policy.

The imbalance above needs a like-minded about the point which the character education is talked about, in the context of what the character education is analyzed, and what orientation of character education will be sought. It is important to get straight not for avoiding the opinions which is in the discourses, those needs will be directed to form a clear mainstream where do those come from and where does the concept will go along with the character education lately?

This paper does not definitely try to direct or guide discourse in order to go into the intended mainstream. It can be precisely said that this paper is an effort of the beginning of how the discourse-discipline vision can be formed. Thus, this paper is started by opening the conceptual sides from the education and character, character education in historic context, and the reflective researches.

With those choices, the lack of the practice and real examples may become the weakness of this paper. But, the expectation is the reflections of this writing can be applied to be the answers, if it cannot be said as the solutions, of the reality of character education problem, particularly, in practice or application.

## B. Education and character

Character derived from English *character*. This word comes from the Greek *charaktêr* means stamp which applied to print money until the coin can be seen from its character or the stamp, whether these are king stamp, animal, or war stuff. Next, character word means distinctive mark to something or somebody until it can be distinguished from the others. Finally character is meant as a distinctive mark which sticks on somebody as a distinction from the others. In modern context, character concept will become very individual. Character means self character of someone, not collective character. Therefore, it can be stated that character concept from the start is colored of collective and as a distinction from the others; this concept will be shifted to the character concept individually.

The changes happen, from the writer's opinion, because of the discourse changes in the character concept of main ideas field. In the classic and middle era, character concept becomes the ideas of social, state, plurality, and morality. Meanwhile in the modern context, character concept more associated as a part of psychology discourse. As an example, when Aristoteles divides human excellences to the excellences of thought and excellences of character, he gives name the excellences of character with *êthikai aretai* which means *moral virtue* or *moral excellence*. The other forms of word *êthikai* becomes *êthikos* and the adjective form becomes *êthos*. The point is, character intelligence is not particularly individualistic but also the combination of quality which formed with and by social as a precondition in order to get happiness (*eudaimonia*). Meanwhile in the contemporary psychology, character concept is understood as a form of character development of somebody appropriate with the factors or outside development. Development psychology places character concept as a form or development measurement to understand the problem of the distance between moral judgment and moral action of somebody.

About education, the writer will describe Driyarkara's view. The reason is just simple, Driyarka gives inspiration of how urgent character education is, because, education has to be meant as a "fundamental phenomena or basic in the human's life." Therefore, Driyarka stated "where is the life exist, the education appears". Because of the life starts to present the meaning when human starts to seek and realize about the life itself. So Driyarkara insists that "teaching is to

form the youth so that they become the intact of whole". Intact means it integrates from all aspects of life. Intact also means to be humans who have full consciousness of their existences. Therefore, from Driyarakara's view, education is a solution of humans existence problem.

Theoretically, Driyarkara distinguishes between education and teaching knowledge. Education more stressed to the ontology-anthropocentric human as a subject and object of education, while teaching (theoretic) is "a view which responsibly methodically and systematically for the phenomena or humanity indication which we called it education." Therefore, it can be understood that teaching is more stressed in the aspect of method and system of education.

Driyarkara's view above is clear that teaching is to form human becomes the intact of whole. It is no other but the character concept. Therefore, the substance of education is to form character. So if there is a character education, from Driyarkara's view, it has two possible answers. First, education which exist until now is not succeed yet to educate character of the students or second there is an ignorance from the stakeholders, education experts, and society that the substance of education is to build the character of human.

If it happens, the existence and discourses of character education need to be analyzed again. The reason is, the structure and grand design of education concept in Indonesia pasca-reformation nowadays seem not clear enough. Education is still burdened by the responsibility to form learners which have competention although psychologically they weak. The learners are demanded to be ready to work and absorbed by the market. Education's orientation is the market not as the market creator. Another side, education is also burdened by the moral messages which can be the *boomerangs* to the learners themselves.

It is realized by the education experts that education is not created in one face or school because of the expanse of the feld and perspective of education. But it is not wrong if someday Indonesia chooses one vision and education concept which can be applied as a guidance of education appliance with the notes defnitely, the vision and concept are revised again if needed. Indonesia's importance as a nation to decide the vision because Indonesia as a nation defnitely has an expectation to observe the youth to have strong nation character.

The point is in the context of self development, content and method of education, also from the humanity side or social generally, education, character, human as self, and nation or society meet in one word relationship or relation to the others. The essence in character is needed because human always in the relationship with the others. Those needs are realized into the learning process in the education felds and socialize to the workshops. Besides relation in the definition above, education and character also have the relation themselves. The real character is the choice action which can be positively accepted or agreed as an ethic of public.

Attitude and ethic level which is seen on the action is real so that it can be judged and felt by self and others through mechanism of relationship above. But, at the same time to create character in the real form above is needed to be fought and developed to be form of education because the substance of the education itself is one of remarkable insight. Learning process means revealing process of high potentions which is had by the learners to develop themselves and their social. Therefore, education has strategic meaning for character development either self discipline, public ethic or nation character building.

### **C. History of Character Education: History of human attitude**

The idea of character education is begun since humans think about themselves as human. It means, tradition of Greece philosopher understands that the substance purpose of education



is to protect men character, to create the best men in the society. For the reason above, character education is reflected deeply by Plato, Aristotle, Immanuel Kant, and John Dewey, just call some philosophers including the education experts. They all agree that the purpose of education is an effort to train the people to be better and incline into the goodness.

In the middle of 5 BC. Socrates is a philosopher or precisely said as sophist which placed as a father of education. In his piece titled *Panathenaiskos*, he describes the learned ones as someone who can manage their daily environment well, they can show the goodness of themselves, respected, fair, discipline, careful in action, and always try to be succeed. They can transform the values and better character towards the others.

The same thing is uttered by John Locke, he says, "If our nation is to repossess its civic soul, it needs to recapture the central civic responsibilities of public schools..." the statement shows how important the role of education to create the civilized society. As we all know that John Locke is the one who formulize the law of modern state through *trias politica* in the 17th century. But he does not forget of the strategic position for the concept of ideal state. It means, for Locke, character is not enough about self character but the most important is public character, a character which helps somebody to understand public dynamics, public ethic, public matters, and public domain.

Definitely the character concept above is not same with the character concept in the character education field. Even if we discover more, moral education begins to create the character education concepts. Moral education clearly develops moral concern for the learners in the classroom or outside. Generally, moral education is developed to the context of values clarification. This principle is developed as an approach of morality learning (and character ?) the essence of principle with values clarification approach is the assumption that the learners more needed the direct practice about morality like what it has to be applied or used. The teachers as facilitators are advised to facilitate the application than lecturing the doctrine about good and bad. But, this problem appears since criticism born, when the question about the measurement and assessor about morality to be a question, so values clarification actually weak theoretically.

Beside of the value verification approach, the approach in the learning of moral education process often used of what Jean Piaget called it cognitive development moral education theory or moral education through the development of the learners cognition. An approach that is fully inspired by Lawrence Kohlberg.

While from John Dewey's view (1944) theoretic education tries to strengthen the character of learners is the comprehensive purpose from the discipline and instruction which is decided in the school. In the end of his monumental book *Democracy and Education* in the context of Dewey's effort of the importance of moral education on the school, Dewey writes ; all learning process tries to develop power of share effectively in the social life is moral. The importance of learning is the real whole dimension is also the essence of how important moral is. So, it can be summarized that based on John Dewey's view, the mission of character (morality) development born from the development process of learners's social which is resulted from the continuous learning.

The mission of character development later will meet some obstacles in education field because of the appearance of some thoughts like logic positivism which has principle there is no morality truth, there is no objective, but moral relativism with all values relatively. Besides logic positivism also has a view about personalism. It says that everybody has their own freedom to choose what they believe as a value. Because for them, the self itself who decides the measurement about morality. There is also a concept about the increasing of pluralism principles in the society.



This concept however gives inspiration and problem to all aspects to decide what value concept which will be decided as a standard. Besides pluralism, 20th century era right now is colored by the reality of secularis in the society. The people tend to put aside the matters between social society and religious aspects. Church's education gets more to be left and dominated by public education and nation which controlled education.

Those thoughts above however give serious impact for the discourse and character education concept. Even the thoughts above ruin the urgency of character education which developed in some western countries. This impact finally truly makes education discourse down in the middle of 20th century.

The movement of education reformation in Europe happens in the 1960's and Vietnam war which USA involves is the events which refresh the stakeholders' memories to teach character education in the schools. Meanwhile from the intellectual movement side, character education starts to develop again because of the recommendation which is gave by Lawrence Kohlberg who later known as Kohlberg theory.

#### **D. Character Education: nowadays perusal**

From the writer's view about character education now is still spontaneous. Character education is suddenly came and it becomes the national issue including as a solution form and education phenomenon in Indonesia. Strategically character education is not to be an issue yet in the constitutional-systemic field which implied to the born of policy which solid of character. In other words, education is, character education does not also give spirit or even become a vision in the curriculum arrangement, syllabi.

Detached from all of that, there is a difference between moral education and character education. There is a moral education and character education. Kirschenbaum states, moral education means an effort to help learners to get the knowledge, skill, attitude, and value to give contributions to self satisfaction and social life which more constructive. Meanwhile Mockwood states that character education is a program of schools' initiation which is designed cooperatively with the other institutions to be directly and systematically in the effort to build high attitude.

This understanding shows that character education is placed as a non-curricula, either in extracurricular, intracurricula, or incurricular (integrated with the curriculum). Besides, in the character education there are the other communities outside the main aspect in the education. It means to create a child who has character is not only charged by the teachers or the others who is in the school but also it needs help from the experts who can create a child who has character.

The view above shows that there is a difference between moral education and character education. The difference can be checked by the character modern history. As we know that character education particularly starts to develop in USA in 1960's. The expectation of education institutions of USA to develop character education is caused by the youth's facts who are followed by indiscipline culture, narcotic addiction, and so on. The point is, we need more particular policy to decrease the social problems in USA as an impact of modernity.

If it happens, the first thing that must be changed is what is the acute problem, systemic, and crucial that must be done in education problem? Is ethic problem and learners' ethos in serious condition? And so on. It means that the problem roots have to be first identified if character education may becomes the answers and solutions of education problem in Indonesia. If it not happens, the character education discourse will fall again to the old tradition of education discourse in Indonesia, the lost or withdrawal of discourse will go along with the changes of stakeholders.

Whatever the problems are, the writer is sure that the essence of character education can bring the learners to the successful life in the future. Therefore, one thing is needed to be affirmed in character education is its existence (read: practice *juknis*) inside or outside the class. It is important because character education is not that simple. There are many factors that influence the process of characterizing the learners, is it an obstacles, judgement, or booster. So the positive reformation and development for the learners need more time and need some ways for the process. The reason is the character forming is not enough to stimulate the learners' cognition, affection, and motoric sides, but the biggest stimulation is the forming process which comes from the learners' relationship with the others; family, community, media, and other entities.

Therefore, when the process of relation becomes positive factor so there is a negative factor also in the relational process. It happens because the relational process always be social will be trapped in situationalism. Social psychology called it school of situationism. It means that the ideas about the development and character education for the learners will be trapped by the borders and the situationalistic values, which it definitely is not the same with the other social conditions. Therefore, there is a skeptic for character education which has principle of character universalism.

Detached from the dilemma above, character education must have priority scales to formulize the ideas and implement this to the daily activities. The priority ideas can be done by formulizing understanding of how character can be built and developed appropriate with the learners' reality, organizations, and society around. At the same time, it can be assured that the first character education is not placed in the learners' priorities but in the method and approach need to be formulized as a tool to build the learners' characters appropriate with the social reality and the education.

Talking about the method and its approach, the teachers' roles in the habitusi process of the learners with what self character brings. Habituating process covers the development and the rational dynamic of the learners, judgement, and emotion. Character is not only about the continuity. The continuity is needed but it goes along with the understanding or rational which can be accepted by the learners, habituating process concerns in the emotion dimensions for the learners if it is not concerned the emotion dimension of character habituation will only be stressed to the learners or the contrary.

## E. CONCLUSION

From the series of the writer's thoughts which have explained above, some points are needed to be the consideration to formulize and develop character education as follows. First, character as a concept is the identity and also the nearer action to the morality concept. Second, character education actually is the phenomenon or existence of education itself. Third, the problems and also character education's prospects are in the method and learning process so the character development and the learner's self can be really formed appropriate with its dynamic and challenge by the society.

## REFERENCES

Beauchum, Floyd D. "Changes and Transformations in the Philosophy of Character Education in the 20<sup>th</sup> Century" dalam [www.educationofcharacter](http://www.educationofcharacter) di akses pada 11 September 2012

Dewey, John. *Education and Democracy*, (New York: Dover Publication, 2004).

Driyarkara, N. *Karya Lengkap Driyarkara*, Jakarta: Gramedia Pustaka, 2003.

-----; *Driyarkara tentang Pendidikan*, Yogyakarta: Kanisius, 1987

Koesoema, Doni. *Pendidikan Karakter: Strategi Menididik Anak di Zaman Global*, Jakarta: Grafindo, 2007.

-----; "Tiga Matra Pendidikan Karakter", dalam *Basis* No. 07-08, Agustus 2007.

Kohlberg, L. *Essai on Moral Development*, San Fransisco: Harper & Row, 1981.

Lickona, Thomas. *Educating For Character: How Our School Can Teach Respect and Responsibility*, New York: Bantam Books, 1991.



STATE ISLAMIC UNIVERSITY  
SUNAN KALIJAGA  
YOGYAKARTA



## THE ANALYSIS OF ERROR IN ANSWERING MATHEMATICS QUESTION IN V CLASS OF SD/MI IN YOGYAKARTA CITY

Written by:

Endang Sulistyowati

PGMI Department, Faculty of Tarbiyah and Teaching

Email: endang.uin@gmail.com

---

### ABSTRACT

Mathematic is one of subjects studied in all education levels and is one of subject examined nationally. In the school year of 2012/2013, the result of Mathematics in national examination in elementary school or Islamic elementary school in Yogyakarta, the average values is in the lowest place compared to other subjects: Science and Indonesian Language.

This research includes into the field research. The data analysis uses qualitative method. The data are taken from the result of tests done by the students including question aspects of geometry and numbers. The result shows that there are three types of mistakes made by students of class V of Elementary School or Islamic Elementary School in solving Mathematics problems. Type 1: error concept, including error in understanding the question, Type 2: error in arithmetic calculations, and Type 3: procedural error, writing errors include Mathematics notation, the unit of measure usage errors, and the efficiency of error calculation. In this research, the error of type-3 did not contribute to the perceived value of the test is obtained. The average test score is 50,97.

The most common error is an error of type 1. In the aspect of geometry, this type of error occurred more than numbers on this aspect. The error of type 3 is also often happened, especially the use of unit of measurement errors and the writing errors of Mathematics notation.

**Keywords:** *Mathematics errors, Elementary School or Islamic Elementary School*

### INTRODUCTION

The result of survey from the TIMSS (Trends in International Mathematics and Science Study) shows that the mathematics achievement scores average of Indonesian eighth graders were significantly below the international average. In 2003, Indonesia ranked 35th out of 46 countries, with a score of 411 (the international average score is 467). In 2007, it ranked 36th out of 49 countries, with a score of 397 (the international average score is 500)<sup>1</sup>. In 2011, it ranked 38th out of 42 countries, with a score of 386<sup>2</sup>.

Mathematics is one subject that is given in almost all levels of education, from SD/MI even to

1 Puspendik, Survei Internasional TIMSS, <http://litbang.kemdikbud.go.id/index.php/survei-internasional-timss>, diakses 10 Desember 2012.

2 Kompas, Prestasi Sains dan Matematika Indonesia Menurun, <http://edukasi.kompas.com/read/2012/12/14/09005434>, diposting 14 Desember 2012, diakses 20 Desember 2013.

university. Mathematics is very useful and its learners can use it as assistance in studying a variety of other disciplines. Therefore it can be said that every person requires knowledge of mathematics in various forms according to his needs. The role of mathematics is high to the development of science and technology.

Currently mathematics becomes one subject of tested nationally course. In 2013, UAN results for mathematics in SD/MI in province level reach the average value of 7.0. It is lower than other subjects; they are Indonesian Languages 8.15 and IPA 7.48. When it is looked from the deployment of its value, the value of mathematics UAN has a very large variance between students who are good and who are less intelligent. From the 50.211 participants of UAN, 946 students received 10 grades for Mathematics while for Indonesian Language are 46 and for IPA are 24<sup>3</sup>.

The data shows that there are many students who have low score in Mathematics in UAN. The success of VI grade students answer UAN's questions is inseparable from the ability of students to understand the material of Mathematics in the class before. In accordance with SKL (Competency Standards of Graduation) of 2013, almost all of the UAN material has been given to the class under VI class. So, it is very appropriate to be identified, what is the fault of the students while working on mathematics questions. From this identification, it can be decided what policy should be done by the teacher to correct the fault.

The reason why the grade taken is fifth grade is because in class V, students have acquired almost all mathematical material for SD/MI. In answering mathematics questions, the mistakes made in the upper classes are caused by the mistakes made in the lower classes. So by taking V class, it can be seen what are the calculation concepts which do not yet mastered by students from class I to class V.

Based on KTSP 2006 curriculum and curriculum 2006, 2013, basically the MATHEMATICS material learned by students of SD/MI from class I-VI:

- Numbers, numbers operations, and its implementation
- Geometry. It includes Planes and Solids
- Statistics and data presentation

Statistics and data presentation are learned in VI class. So, in this research, the analysis will be performed on the number and geometry material.

## Learning Mathematics in Schools

The term mathematics is derived from Latin *mathematica* which is derived from the Greek *mathematike* which means "relating to learning". The term have the root word *mathema* which means knowledge or science<sup>4</sup>. The term *mathematike* is also closely related to the word *mathein* which means learning (thinking). So, etymologically, mathematics means the knowledge gained by means of reasoning<sup>5</sup>.

Mathematics is a product of human intellectual thought. The intellectual thought itself could have come from the mere thought issue and also from of the issues related to real everyday life. Mathematical objects are socio-cultural-humanist. It means that mathematics is the property of all mankind. No matter how primitive a society is, mathematics is part of its culture. Mathematics is born from the long process of human history. Due to the fact that, mathematical concepts are

3 <http://www.pengumumanun.com/2013/06/rekap-hasil-kelulusan-un-sd-yogya.html>

4 Erman Suherman, dkk, *Strategi Pembelajaran ...*, hlm. 15-18.

5 Ibid., hlm. 18-19.

universal in its characteristic<sup>6</sup>.

There is controversy in the study of mathematics related to whether mathematics should be taught using cognitive approach, constructivist, or practices and counting<sup>7</sup>. Related to the controversy, Andrew Noyes (2007), in Ariyadi, said<sup>8</sup>: *banyak siswa cenderung dilatih untuk melakukan perhitungan matematika daripada dididik untuk berfikir matematis*(children are trained to do mathematical calculations rather than being educated to think mathematically). Looking at these statements, there is the tendency as if there are conflicting positions between ‘trained in performing the calculations’ with ‘educated to think mathematically’. The word ‘trained’ more emphasis on ‘know-how’, which means learn to know how to do something. While the word ‘educated’ more emphasis on the ‘know why’, which place more emphasis on understanding why some things happen.

Ways and approaches in mathematics learning is strongly influenced by the views of teachers towards the learning of mathematics. There are four kinds of views about the position and role of mathematics, they are<sup>9</sup>:

1. Mathematics as a way of thinking. This view originated from the character of mathematics which is logical and systematic in organizing ideas, analyzing information, and drawing conclusions.
2. Mathematics as an understanding of *pola* and *hubungan* (patterns and relationships). The emphasis on this relationship is necessary for students to realize that the concept they are learning has similarities and differences with the concept that has been/ever learned.
3. Mathematics as a tool (*matematika sebagai suatu alat*). This view is influenced by aspects of the application and the history of mathematics concepts.
4. Mathematics as a language/communication tool. Because mathematics is the language of symbols, so, mathematics is the universal language.

Mathematical skill of students is not only seen from mere arithmetic skills. *Mathematics Learning Study Committee in National Academy of Sciences* reveals that mathematical skills are based on the five elements, they are<sup>10</sup>:

1. Comprehension (Understanding): the understanding of mathematical concepts.
2. Calculation (Computing): the ability to perform mathematical procedures such as addition, subtraction, multiplication, and division numbers carefully, efficiently, and accurately.
3. The using (Applying): the ability to solve mathematical problems by using the right strategies, procedures, and formulas.
4. Stating the reason (Reasoning): the ability to explain or prove the settlement or the concept of a mathematical problem.
5. Captivate (Engaging): look at mathematics positively as something useful.

In mathematics learning, there is no the best way of learning and teaching. Each individual people has his own way and style of learning and teaching. Each learning approaches have their own characteristics. The approaches in mathematics learning include:

### **Constructivism approach**

6 Sumardiyono, *Karakteristik Matematika dan Implikasinya terhadap Pembelajaran Matematika*, (Yogyakarta: PPPG Matematika, 2004), hlm. 8.

7 John W. Santock, *Psikologi ...*, hlm. 111.

8 Ariyadi Wijaya, *Pendidikan Matematika Realistik*, (Yogyakarta: Graha Ilmu, 2012), hlm. 5-8.

9 Ariyadi Wijaya, *Pendidikan...*, hlm. 6-7.

10 J. Kilpatrick & J. Swafford, Editors, *Helping Children Learn Mathematics*, (Washington, DC: National Academy Press, 2002), p. 9.

In learning mathematics by using constructivism approach, teachers do not teach students how to solve problems, but he encourages students to find their own way for finishing it. When students give the answer, the teacher does not directly say right or wrong, but he encourages other students to give agree or disagree opinion over that. In constructivism approach, the teacher acts as a facilitator<sup>11</sup>.

Santrock, an expert of educational psychologists, provides some mathematical learning principles of constructivism approach<sup>12</sup>:

1. Make the mathematics becomes realistic and interesting. Give the teaching of mathematics by involving a variety of interesting realistic problems.
2. Consider the knowledge that students have before.
3. Make the learning of mathematics that develop social interaction. Learning activities should provide opportunities for students to work together and improve communication skills.

With constructivism learning approach, students not only memorize the formula used and can answer mathematical questions, but they also can understand the concepts/mathematical formulas correctly.

### **Problem Solving Approach**

Problem solving is an important mandate in mathematics curriculum. By problem solving, mathematical skills aspects such as the application of the rules, the discovery of patterns, generalizing, and the communication of mathematics can be developed better.

Not all mathematical questions can be categorized as the problem solving question. If a question is given to the student and the student immediately know how to answer it, it does not include question on the type of problem solving one. It could be a question becomes a “problem” for a student, but not for the others<sup>13</sup>.

According to Polya, problem solving solution consists of four steps, they are: understanding the problem, planning a solution, solving the problem according to plan, and checking back on the results obtained and the steps that have been made.

There are various strategies that can be used to resolve the problem solving, they are: working backwards, doing/acting, using a table or a list, creating a picture/diagram, estimating or guessing and then checking, finding and using patterns, or a combination of these strategies<sup>14</sup>.

### **Open-Ended Approach**

Mathematics question which is designed to have a variety of answers, is called as open-ended problem. The purpose of open-ended learning is to develop a creative activities and mathematical mindset so that spurred higher level thinking abilities<sup>15</sup>. The use of open-ended in mathematics learning provide some goodness, including<sup>16</sup>:

1. Students are more actively participate and have the opportunity to express their ideas.
2. Students have more opportunities to use their knowledge and skills in a comprehensive manner.
3. More experience, give reason (reasoning).

11 Erman Suherman, dkk, *Strategi ...*, hlm. 74-81.

12 John W. Santrock, *Psikologi Pendidikan ...*, hlm. 113-114.

13 Endang Sulistyowati dan Luluk Mauluah, *Matematika I dan Pembelajarannya*, (Yogyakarta: Grass Media, 2012), hlm. 80.

14 Ibid., hlm. 81.

15 Erman Suherman, *Strategi ...*, hlm. 123-142.

16 Ariyadi Wijaya, *Pendidikan ...*, hlm. 61-62.



4. Provide a discovery activities (discovery), and receive recognition from other friends related to relevant solutions acquired.

### Realistic approach

Realistic Mathematics Education (RME) which has been developed in the Netherlands since the 1970s, is based on the concept of Freudenthal, an expert Dutch mathematician. According to Freudenthal, mathematics is a human activity, so students must actively construct their own knowledge with the help of an adult/teacher<sup>17</sup>.

PMRI (Realistic Mathematics Education of Indonesia) is an RME applied in Indonesia. In PMRI, there is no specific steps that must be passed. Although PMRI is derived from RME, but in its development it is adapted to the social conditions and culture of Indonesia. PMRI learning characteristics are<sup>18</sup>:

1. Pupils and teachers active, both physically and mentally/thinking.
2. Learning begins by presenting contextual/realistic issues.
3. Provide opportunities for students to resolve problems in their own way.
4. Teacher encourages interaction and negotiation.
5. Teacher acts as facilitator (*Tut wuri handayani*).

If students make a mistake instead of being scolded they are aided by asking leading questions.

### The Error in Answering Mathematics Question

In mathematics learning, the error in learning an earlier concept will affect the understanding of the next concept because mathematics is a structured subject. There are several causes of students error in answering mathematical questions, they are: the error in understanding the question, the error in using the formula, the error in arithmetic operations, or the error in concluding.

Lerner argues in Mulyono<sup>19</sup> that some common mistakes made by children in mathematical tasks are the lack of knowledge about the symbols, the lack of understanding of place value, use the wrong process, calculation errors, and writing that can not be read so that students make mistakes because they do not able to read their own writing.

According to Arti Sriati<sup>20</sup>, students errors in answering mathematics questions are:

1. Error in mathematics modeling.
2. Misconception, i.e. the error in understanding mathematical concepts.
3. Error strategy, that is an error that occurs because students do not choose the right way of answering.
4. Systematic error, the error which relates to the wrong choice of extrapolation techniques.
5. Sign errors, i.e. errors in giving or writing marks or mathematical notation.
6. Count errors, i.e. errors in performing mathematical operations.

In answering geometry questions, Junia Mulyani in his research finds that the errors committed by students are<sup>21</sup>:

17 Koeno Gravemeijer, *Developing Realistic Mathematics Education*, (Utrecht: Freudenthal Institute, 1994), p. 12-13.

18 Y. Marpaung, Pendidikan Matematika Realistik Indonesia (PMRI), *Makalah*, disampaikan pada pelatihan guru-guru SD/MI kelas I-III pada 2 Oktober 2009.

19 Mulyono Abdurrahman, *Pendidikan Bagi Anak Berkesulitan Belajar*, (Jakarta: PT Rineka Cipta, 1999), hlm. 262.

20 Arti Sriati. 1994, Kesulitan Belajar Matematika pada Siswa SMA (Pengkajian Diagnosa), *Jurnal Kependidikan*, Yogyakarta, 1994, hlm. 4.

21 Yunia Mulyani Azia, *Upaya Mengatasi Kesulitan Siswa Belajar Geometri dengan Pengajaran Remedial Kelompok*

1. Misconceptions.
2. Error count.
3. Error information, which often occurs in question using story form.

Based on various opinions above, basically the main errors in answering mathematics question are:

1. Error concept, that is the mistakes made at the time the students answer mathematics question which is caused by the students do not yet understand mathematical concepts required.
2. Calculation error, the error caused by the incorrect counting done by students, while the mathematical concepts used by them are correct.
3. Errors in understanding the question.
4. Errors in writing mathematical notation. In this case, the solution obtained by the students is correct, but the notations written are incorrect.
5. Errors in the use of unit.
6. Less skilled in performing numbers operation or arithmetic capabilities. Included in this case is the errors of writing operations that do not need, or do a number of ineffcient operations.

In this research, the errors classified in number 4, 5 and 6, are not considered as errors in answering mathematics question, but it is something that needs to be fixed/better trained, so that students do not have difficulty in answering mathematics questions.

In this research, the mistakes made by students in answering mathematics questions are divided into three, they are;

1. Error concept, this case includes errors in understanding the question.
2. Calculation error.
3. Procedure error, this case includes the errors classified as number 4, 5 and 6 above.

## Research Methodology

This research is a field research which using qualitative descriptive method. The research was conducted by collecting data, and the data obtained is in form of descriptive data.

In broadly speaking, the steps of the research are:

1. Preparation, include: examine the curriculum in effect, create questions test, validate test questions, contact some schools/madrasah and ask for permission to conduct research.
2. Discuss with the class teacher/mathematic teacher about the procedures and test execution.
3. Retrieve the data, conducting tests in the class which becomes the object of research. At this phase, at the same time researcher conducts observations and interviews to some students.
4. The data analysis phase.
5. Making the reports.

## The Result of Research in General

Data collection was carried out on 6-8 November 2013. The research subjects taken are 43 fifth grade students from four elementary schools in the city of Yogyakarta with various categories, they are: State MI, Private MI, SDIT, State SD (Elementary School).

The test questions which become instrument of research consist of 12 questions. Descriptively, the results of student answers can be described as follows:

From 12 questions, the student can answer 6.12 questions correctly on the average, and the average value was 50.97 with a standard deviation is 25.24. Most errors happens in question number 6, only 14% of students can answer it correctly. The fewest errors happens in question number 12, there are 83.7% of students answered it correctly.

### Analysis of Error Types done by Students

1. Type 1 error: concept error.
2. Type 2 error: calculation error
3. Type 3 error: procedure error. Students who make the mistake of type 3 are not included in the group of students who make wrong answer.

### Question number 1 and 2

	<p>The picture beside is an ABCD rhombus, the length of the diagonal BD = 12 cm, and the length of the diagonal AC = 16 cm. so:</p> <p>Area = .....</p> <p>Circumference = ...</p>
--	--

The correct answer is:

1.  $Area = \frac{diagonal\ 1 \times diagonal\ 2}{2} = \frac{12\ cm \times 16\ cm}{2} = 96\ cm^2.$
2.  $Circumference = 10\ cm + 10\ cm + 10\ cm + 10\ cm = 40\ cm.$

For question number 1, 27 students answer it correctly and 16 students answer it incorrectly. Based on three types of error occurred, from 27 student answer correctly, 18 of them make the type 3 error, that is: (1) do not use the unit area, and (2) using the wrong unit area.

From 16 students who answer it incorrectly, 2 students make a miscalculation and the rest make a misconception. There are various misconception of the student. Some of the wrong answers are as follows:

- (a)  $Area = \frac{10 \times 10}{2} \times t = \frac{10 \times 10}{2} \times 10 = 500\ cm$
- (b)  $Area = \frac{10 \times 4}{2} = \frac{40}{2} = 20$
- (c)  $BD = \frac{12}{2} = 6$  ;  $AC = \frac{16}{2} = 8$   
 $Area = 6 \times 8 = 48\ cm$
- (d)  $The\ area\ of\ A\ and\ B = 10$   
 $The\ area\ of\ B\ and\ C = 10$   
 $The\ area\ of\ C\ and\ D = 10$   
 $The\ area\ of\ D\ and\ A = 10$

Based on these answers, it can be said that the students make type 1 error, that is wrong in understanding the diagonal concept of rhombus, do not understand yet how to calculate the area of a rhombus, and do not understand yet the area concept/definition. The students also make type 3 error, that is do not use the correct unit.

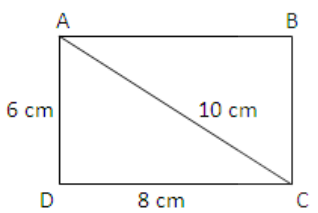
For question number 2, 29 students answer it correctly and 14 students answer it incorrectly. From 29 students who answer it correctly, 18 students make type 3 error, they are: (1) using the wrong unit, (2) do not use the unit, and (3) mathematic writing/notation error.

There are three kinds of wrong answers of the students because of concept error, they are:

- (a)  $Circumference = 10 \times 10 \times 10 \times 10 = 10.000 \text{ cm}^2$
- (b)  $Circumference = 10 \times 10 \times 10 \times 10 = 11.000 \text{ cm}$
- (c)  $Circumference = 12 + 16 = 28 \text{ cm}$

The answers show that the students do not understand yet the concept/definition of rhombus circumference. The students still confuse between the formula for the rhombus area and the formula for the rhombus circumference.

### Question Number 3 and 4

	<p>Calculate the area and circumference of ABC triangle</p> <p>Area = ...</p> <p>Circumference = ...</p>
--	--

The correct answer are:

- 3.  $Area = \frac{6 \text{ cm} \times 8 \text{ cm}}{2} = 24 \text{ cm}^2$
- 4.  $Circumference = 6 \text{ cm} + 8 \text{ cm} + 10 \text{ cm} = 24 \text{ cm}$

For question number 3, 16 students answer it correctly and 27 students answer it incorrectly. There are 3 types of error occurred. From 16 students who answer correctly, 8 students make type 3 error, that is do not use area unit or use the wrong unit area.

From 27 students who answer it incorrectly, 3 students make a miscalculation, and the other make a misconception. There are carious misconceptions made by students, they are:

- (a)  $Area = \frac{1}{2} \times (base \times height) = \dots$
- (b)  $Area = \frac{8 \times 10}{2} = 40 \times 6 = 240$   
 $Area I = \frac{8 \times 10}{2} = 40 ; Area II = \frac{8 \times 10}{2} = 40$
- (c)  $Area = 40 + 40 = 80$
- (d)  $Area = 6 + 8 \times 10 = 140 \text{ cm}$

The students just write down the formula and they do not continue to work. The students do not know which one is *the base* and *the height* of the triangle. The students do not understand yet the area concept/definition, and they just memorize the formula of the triangle area. The students also make a type 3 error, that is the wrong use of area unit.

For question number 40, 20 students answer it correctly and 23 students answer it incorrectly.



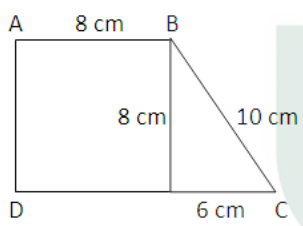
From 20 students who answer it correctly, 12 students make the type 3 error, they are: (1) do not use circumference unit, (2) use wrong circumference unit, and (3) do not write the answer in correct mathematic notation.

From 23 students who answer it incorrectly, all of them made the type 1 error, that is concept error. There are various concept error made by the students. The error is cause by the fact that the students do not understand yet the concept/definition of Planes circumference, especially triangle circumference. The students still confuse to differ between the circumference and the area concept. The students also do not use yet the formula of triangle are correctly. Some of wrong answer made by students are:

- (a)  $Circumference = 6 \times 8 \times 10 = 480$   
 (b)  $Circumference = \frac{1}{2} \times 8 \times 6 = 24 \times 10 = 240$   
 (c)  $Circumference = 10 \times 3 \times 5 = 150$   
 (d)  $Circumference = 6 + 8 = 14 + 6 = 20 + 8 = 28$   
 (e)  $6 \times 2 = 12$  ,  $8 \times 2 = 16$  ,  $10 \times 2 = 20$   
 $Circumference = 12 + 16 + 20 = 48$

The students make a concept error. The students do not understand yet the concept/definition of circumference. The students do not able yet to discern how to calculate the area and the circumference of a triangle.

### Question Number 5 and 6

	<p>Calculate the area and circumference of the ABCD planes in the picture beside.</p> <p>Area = ...</p> <p>Circumference = ...</p>
---	--

The correct answers are:

5.  $The\ area = \frac{(8\ cm + 14\ cm) \times 8}{2} = 88\ cm^2$   
 6.  $The\ circumference = 8\ cm + 10\ cm + 14\ cm + 8\ cm = 40\ cm$

For question number 5, 16 students answer it correctly and 27 students answer it incorrectly. From 16 students who answer it correctly, 8 students make the type 3 error, they are: (1) using the wrong unit, (2) do not use the unit, and (3) writing the wrong mathematics notation.

From 27 students who answer it incorrectly, 2 students make arithmetic error (type 2 error), and the rest make the concept error. Some of the wrong answers of the students are:

- (a)  $Area = \frac{8+10+6+8}{2} = \frac{32}{2} = 16$   
 (b)  $Area = \frac{(8+6) \times 8}{2} = 51$   
 (c)  $8 \times 8 = 64$  ,  $\frac{6 \times 10}{2} = 30$   
 $Area = 64 + 30 = 94$   
 (d)  $Area = \frac{base \times height}{2} = \frac{10 \times 8}{2} = 40\ cm$   
 (e)  $\frac{6 \times 10}{2} = 30 \times 8 = 240$  ,  $8 + 8 + 8 + 8 = 32$

The students understand that the planes is a trapezoid, but the students do not understand yet what is meant by “the number of parallel side”. Some students divide the planes into two parts of a square and a triangle, but the students do not understand yet how to calculate the area of a triangle. The students do not understand yet the area concept and they do not understand yet the formula for calculating the area of a trapezoid.

For question number 6, the students who answer it correctly just 6 students, and the rest 37 students answer it incorrectly. From 6 students who answer it correctly, 4 students make the type 3 error, they are: (1) using the wrong unit, and (2) do not use the unit.

From 37 students who answer it incorrectly, all of the students make concept error. Some students, in addition to make concept error also make arithmetic error (type 2 error 2) and writing notation error (type 3 error). The concept error made by the students can be grouped into two maor groups, they are:

- (a) Dividing the planes into 2 parts, a square and a triangle. The students calculate the circumference of each sides and then add them together.
- (b) The students add or multiply all of the sides of the known length.

Some examples of the error made by students are::

$$(a) \text{ Circumference} = 8 + 10 + 6 + 8 = 32$$

$$(b) I = 8 + 6 + 10 = 24$$

$$II = \frac{8 + 8 + 8 + 8 = 32}{56 \text{ cm}^2}$$

In the frst work, the students add all of the sides. In the second work, the students calculate the circumference of the square and the triangle, and then add them together.

### Question Number 7

$$402 - 37 + 68 = \dots$$

$$\text{The correct answer : } 402 - 37 + 68 = 365 + 68 = 433$$

For question number 7, 24 students answer it correctlt and 19 students answer it incorrectly. From 19 students who answer it correctlt, 11 students make calculation error (type 2 error), and the rest 8 students make concept error (type 1 error).

### Question Number 8

$$6 + 12 : 3 = \dots$$

$$\text{The correct answer: } 6 + 12 : 3 = 6 + 4 = 10$$

For question number 8, 26 students answer it correctly and 17 students answer it incorrectly. From 17 students who answer it correctly, 11 students make calculation error (type 2 error), and 8 students make concept error (type 1 error). The most common concept error made by students is adding 6 and 12 and then divide by 3, so the result of the calculation becomes:

The error like this one is done by 13 students. Another error is a concept error which is *coupled* by calculation error (type 2 error). There are students who calculate::

### Question Number 9

$$\frac{1}{4} \times \frac{1}{2} + \frac{1}{2} = \dots$$

The correct answer is:

$$\frac{1}{4} \times \frac{1}{2} + \frac{1}{2} = \frac{1}{8} + \frac{1}{2} = \frac{1}{8} + \frac{4}{8} = \frac{5}{8}$$

For question number 9, 13 students answer it correctly and 30 students answer it incorrectly. From 13 students who answer correctly, 1 student make a type 3 error by performing the wrong steps of calculation. The student writes:

$$\frac{1}{4} \times \frac{1}{2} + \frac{1}{2} = \frac{1}{4} \times \frac{1}{2} = \frac{1}{8} + \frac{1}{2} = \frac{2}{16} + \frac{8}{16} = \frac{10}{16} = \frac{5}{8}$$

From 30 students who answer incorrectly, all of the students make the concept error (type 1 error), and 8 students, in addition to make concept error also make type 3 error, they are: write wrong of mathematic notation, and perform the unnecessary steps of calculation. There are various concept error made by students, they are:

- (a)  $\frac{1}{4} \times \frac{1}{2} + \frac{1}{2} = \frac{1}{8} + \frac{1}{2} = \frac{1}{10}$
- (b)  $\frac{1}{4} \times \frac{1}{2} + \frac{1}{2} = \frac{1}{6} + \frac{1}{2} = \frac{1}{8}$
- (c)  $\frac{1}{4} \times \frac{1}{2} + \frac{1}{2} = \frac{1}{4} \times \frac{2}{4} = \frac{2}{8} + \frac{1 \times 4}{2 \times 4} = \frac{8}{32}$
- (d)  $\frac{1}{4} \times \frac{1}{2} + \frac{1}{2} = \frac{1}{8} + \frac{1}{2} = \frac{2}{1} + \frac{8}{1} = \frac{10}{1} = 10$
- (e)  $\frac{1}{4} \times \frac{1}{2} + \frac{1}{2} = \frac{1}{4} \times \frac{2}{4} = \frac{2}{4} + \frac{1}{2} = \frac{2}{4} + \frac{2}{4} = \frac{4}{4}$

### Question Number 10

$$-2 - 2 - (-2) + 2 = \dots$$

The correct answer is:

$$-2 - 2 - (-2) + 2 = -2 - 2 + 2 + 2 = 0$$

For question number 10, 16 students answer it correctly and 27 students answer it incorrectly. From 27 students who answer incorrectly, all of the students make a concept error (type 1 error). The concept error is occurred because students do not understand yet how to do the addition and subtraction operations in positif and negative number. Some examples of wrong works of the students are as follow:

- (a)  $-2 - 2 - (-2) + 2 = -4 - (-2) = 2 + 2 = 4$

$$(b) -2-2-(-2)+2=-4-(-2)=-2+2=-4$$

$$(c) -2-2-(-2)+2=-2+2+2+2=4$$

### Question Number 11

The number of students in V class is: 13 female students and 14 male students. For the purpose of decorating the class, each female students carries 3 red balloons and male students carries 2 white balloons. How many balloons in the whole which is carried by all of V class students?

The correct answer is:  $13 \times 3 + 14 \times 2 = 39 + 28 = 67$

For question number 11, 34 students answer it correctly and 9 students answer it incorrectly. All of students who answer it correctly, answer the question by the way which more and less is same:

$$\begin{array}{r} 13 \times 3 = 39 \\ 14 \times 2 = 28 + \\ \hline 67 \end{array}$$

From 9 students who answer incorrectly, 1 student make type 2 error, that is calculation error, and the rest 8 students make type 1 error, that is concept error because of misunderstanding of the question. Some examples of the wrong work done by students are as follow:

$$(a) \begin{array}{r} 13 \times 14 = 43 \\ 3 \times 2 = 6 + \\ \hline 49 \end{array}$$

$$(b) 13 \times 14 = \frac{182}{2} = 91 \quad ; \quad \frac{182}{3} = 62$$

$$(c) 3 + 2 = 5 \text{ balloons}$$

(d) Seeking FPB for 13 and 14, and finally can not continue to answer.

### Question Number 12

Mrs Heni allots colored paper to her students for making the kite. The number of students in the class is 30 students. If each student receives 3 sheets of paper, how many papers are allotted by Mrs Heni?

The correct answer is:

$$30 \times 3 \text{ sheets} = 90 \text{ sheets}$$

For question number 12, 36 students answer it correctly and 7 students answer it incorrectly. All of students who answer correctly, working in the question by the way which more and less is same, that is:

From 7 students who answer incorrectly, all of them make type 1 error that is concept error. Some examples of the wrong works done by students are as follow:

$$(1) 30 : 3 = 10$$

$$(2) 30 \times 1 = 30$$

$$(3) 30 \times 3 = 93$$



(4) Calculating KPK, and writing:

## The Efforts to Fix the Errors

### Area and Circumference of Planes

To repair the students' understanding of the concept of area and circumference, it can be done by the following learning process. Before getting into the material of planes area, the teacher needs to repeat first the definition of area of a rectangle. Teacher gives rectangular piece of paper with patches of units as in figure 1, and asks students to calculate the area and circumference of the rectangle.



Figure 1. rectangle with unit patches

For reviewing the definition of area and circumference, teacher gives the picture of non-geometrical form in tartan sheet as in figure 2 and asks students to calculate the area and the circumference. Then the students are asked to create 3 different pictures of non-geometrical form which have a certain area, and each of the pictures is calculated their circumference.

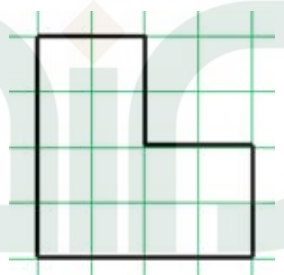


Figure 2. The Example of the picture of non-geometrical form in a tartan sheet

Then the teacher gives pieces of parallelograms cardboard (with no certain size) as in Figure 3 and asks them to calculate its circumference. After that, the students are asked to calculate its area by cutting and reshaping it into a rectangular shape.



Figure 3. Parallelograms cardboard with no certain size

From this learning, it is hoped that the students will understand the concept of parallelograms area and determine the origin of the formula of its area. Then students are asked to draw some parallelograms with certain area and different size on tartan paper as in Figure 4.

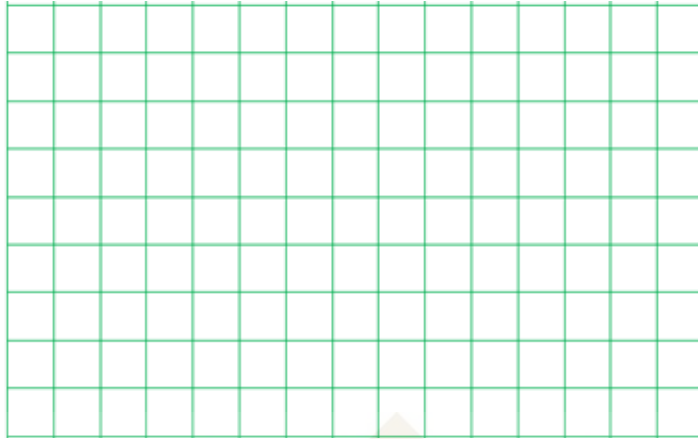


Figure 4. Tartan paper for drawing parallelograms

Similar activities can be done for another rectangular shape, rhombus, kite, and trapezoid.

### The Mixed Operations of Integer

To practice and mastery of mixed operations of integer calculation, the following games can be used:

#### (1) Four Number 4 Game

Rules of the game:

Use 4 digits of number 4 for making the number 0 to 10, use any arithmetic operations. For example:

$$0 = 4 + 4 - 4 - 4$$

$$1 = (4 + 4) : (4 + 4)$$

#### (2) Four Cards Game

Prepare 10 cards (in the size of a playing card) and inscribed with the numbers 0-10. Shake the 10 cards, and take 4 cards at random. Then take another 1 card. With a variety of arithmetic operations, change the 4 digits of the card which is first drawn into the numbers on the card which is drawn last one. For example the drawn cards are the cards with the numbers 2, 5, 6, 7. One last card is the card with number 8, so it can be made  $2+5+7-6=8$ .

The important point of these two games is that the students are asked to write down number operations performed. Students are trained to write correctly, using the correct brackets, and write the correct notation. By this game, in addition to material of integer operations that will be obtained by the students, the students are also trained to improve their creativity.

### Addition and Subtraction of Positive and Negative Number

Negative number is an abstract concept. Teacher can use the visual aid pieces of positive/negative to concretize the existence of positive and negative numbers. The visual aid is made of cardboard with a semi-circular shape with a diameter of approximately 3 cm, and it is made in 2 colors. White pieces to represent positive numbers, the black pieces to represent negative numbers.

See figure 5.

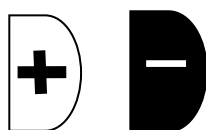


Figure 5. Positif and Negative pieces

Addition operation uses the unification concept of the member of the set. Subtraction operation uses the reduction principle of the member of the set. The basic principle of the unification of the pieces is: if one piece is negative, it will be a zero/neutral. See figure 6.



Figure 6. Positive and Negative pieces is unified into zero/neutral

Example:

$$-5 + 3 = \dots$$

The demonstration:

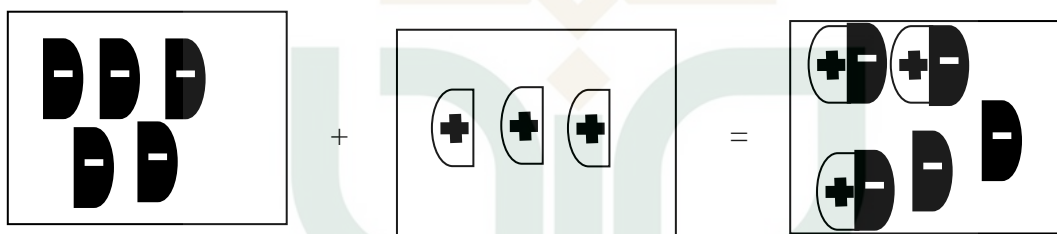


Figure 7. The demonstration of  $-5 + 3$

### Conclusion

1. The error made by students of the IV grade of SD/MI in answering mathematics questions can be classified into 3 types:
  - Type-1: concept error, including errors in understanding the question.
  - Type-2: arithmetic miscalculations.
  - Type 3: procedure error, include: the use of unit, writing mathematical notation, the effectiveness of the arithmetic calculation.
2. In answering mathematics questions, the most frequent error is the error of type - 1, that is the concept error, both in the aspect geometry and the aspect of number. The error in the aspect of geometry is done more than in the aspect of number.

## REFERENCES

- Arti Sriati. 1994, Kesulitan Belajar Matematika pada Siswa SMA (Pengkajian Diagnosa), *Jurnal Kependidikan*, Yogyakarta.
- Ariyadi Wijaya, 2012, *Pendidikan Matematika Realistik*, Yogyakarta: Graha Ilmu.
- A. Treffers, 1991, *Realistic Mathematics Education in The Netherlands 1980-1990*, Realistic Mathematics in Primary School, Utrecht: Freudental Institute.
- Endang Sulistyowati dan Luluk Mauluah, 2012, *Matematika I dan Pembelajarannya*, Yogyakarta: Grass Media.
- Erman Suherman, dkk, 2003, *Strategi Pembelajaran Matematika Kontemporer*, Bandung: Universitas Pendidikan Indonesia.
- Goenawan Roebiyanto, *Kesalahan Sederhana Siswa Sekolah Dasar Kelas Tinggi dalam Mengerjakan Soal Matematika*, *Jurnal Ilmu Pendidikan*, Volume 24 No. 2, 1997. Diunduh dari <http://journal.um.ac.id/index.php/ilmu-pendidikan/article/view/842>, pada 9 September 2013.
- G. Polya, new foreword by John H. Conway, 2004, *How to Solve It? A new aspect of mathematical method*, USA: Princeton University Press.
- John A. Van de Walle, 2008, *Matematika Sekolah Dasar dan Menengah*, edisi keenam, jilid I, Alih bahasa Suyono, Jakarta: Erlangga.
- J. Kilpatrick & J. Swafford, Editors, 2002, *Helping Children Learn Mathematics*, Washington, DC: National Academy Press.
- Karmawati, Analisis kesalahan siswa kelas VI SD dalam menyelesaikan soal-soal matematika berdasarkan kompetensi yang sulit pada UASBN tahun pelajaran 2007/2008 di Kecamatan Limboto, *Tesis*, Yogyakarta: UNY, 2009.
- Koeno Gravemeijer, 1994, *Developing Realistic Mathematics Education*, Utrecht: Freudental Institute.
- Mathematical Sciences Education Board, National Research Council, 1990, *Reshaping School Mathematics, a Philosophy and Framework for Curriculum*, Washington DC: National Academy Press, Versi e-book, didownload pada 19 Juli 2013.
- Mattew B. Miles & A. Michael Huberman, 1992, *Analisis Data Kualitatif*, penerjemah: Tjetjep Rohendi Rohidi, Jakarta: UI Press.
- Mulyono Abdurrahman, 1999, *Pendidikan Bagi Anak Berkesulitan Belajar*, Jakarta: PT Rineka Cipta.
- R Soejadi 2010, *Kiat Pendidikan Matematika di Indonesia*, Jakarta: Depdiknas.
- Sany Nuryani, *Analisis Kesalahan Siswa Dalam Menyelesaikan Soal Cerita Pokok Bahasan Penjumlahan dan Pengurangan Bilangan Bulat Pada Siswa Kelas V Sekolah Dasar*, e-Jurnal UNY, Volume II No. 1, Januari 2013.
- Sugiyono, 2013, *Metode Penelitian Kuantitatif, Kualitatif dan R&D*, Bandung: Alfabeta.
- Sumardyono, 2004, *Karakteristik Matematika dan Implikasinya terhadap Pembelajaran Matematika*, Yogyakarta: PPPG Matematika.
- Yunia Mulyani Azia, *Upaya Mengatasi Kesulitan Siswa Belajar Geometri dengan Pengajaran Remedial Kelompok dan Remedial Bersama di Sekolah Lanjutan Tingkat Pertama*. Diakses dari <http://digilib.upi.edu/pasca/available/etd-1011106-131035/>



Y. Marpaung, Pendidikan Matematika Realistik Indonesia (PMRI), *Makalah*, disampaikan pada pelatihan guru-guru SD/MI kelas I-III pada 2 Oktober 2009.

Lampiran Peraturan Menteri Pendidikan dan Kebudayaan Republik Indonesia Nomor 54 Tahun 2013 Tentang Standar Kompetensi Lulusan Pendidikan Dasar dan Menengah.

Lampiran Peraturan Menteri Pendidikan dan Kebudayaan Republik Indonesia Nomor 65 Tahun 2013 Tentang Standar Proses Pendidikan Dasar dan Menengah.

Kementrian Pendidikan dan Kebudayaan, Materi Pelatihan Guru dalam rangka implementasi kurikulum 2013.

Puspendik, Survei Internasional TIMSS, <http://litbang.kemdikbud.go.id/index.php/survei-internasional-timss>,

Kompas, Prestasi Sains dan Matematika Indonesia Menurun, <http://edukasi.kompas.com/read/2012/12/14/09005434>, diposting 14 Desember 2012, diakses 20 Desember 2013.

<http://www.pengumumanun.com/2013/06/rekap-hasil-kelulusan-un-sd-yogya.html>



STATE ISLAMIC UNIVERSITY  
SUNAN KALIJAGA  
YOGYAKARTA

## THE IMPORTANCE OF VALUES CHARACTER EDUCATION FOR 2013 CURRICULUM

Written by:  
Drs. H. Sedya Santosa, SS, M.Pd.<sup>1</sup>

=====

### ABSTRACT

In the education discourse of curriculum in 2013, the character value has become a crucial topic. Not a few who were a little skeptical but also those who are having optimistic view. For the skeptic, the value is seen as something that is impossible to be named through educational institution such as schools because this institution only concerns about academics or cognitive aspect of students. In this view, investing value is the responsibility of informal institutions that house and non formal institution are a society. To support this view, empirically the result of the survey done by Hugh Harshorne and Mark May is often used as reference. This research concludes that (a) nothing correlation between character training and actual behavior, (b) moral behavior of the people is not always being consistence from one situation to another (c) nothing correlation between what people say and do about the morality, and (d) deceitful behavior is almost never done by the all of people.

Meanwhile, for the optimist person, the value of character education is a must in the educational institution. In this view, the educational institution has a strategic role and approach which is quite effective in instilling the values to the younger generation. Basically, there are no educational institutions that can break away from the value directly or indirectly. Moreover, the main aim held education is something contained a value which creates human with good character, intact, and adult. Kirchenbaun states that the center of character education is instruction of the value and the superiority of the moral in its research about character education relation and academic achievement. Edward Wynne discovers that (a) education character has positive influence to the academic achievement and (b) the approach of character education is more possible than modern techniques in arousing good behavior among students in the school.

This thesis will elaborate more about the important of main effect of character values in the curriculum in 2013 as the way to face moral crisis of the nation and the bawdy of the social order in this country we love.

**Key words:** *Value, Character, Curriculum in 2013*

### A. DISCOURSE OF CHARACTER EDUCATION

In the discourse of character education, the issue of the value occupies in central discussion. There are some skeptical parties and optimistic parties. For the skeptical parties, the value is seen as something impossible instilled through educational institutions such as schools. The reason is these institutions are only dealing with academic problems or cognitive aspects of learners. In skeptical

---

1 A Lecturer of PGMI 's subject Tarbiyah Faculty and Teachership UIN Sunan Kalijaga Yogyakarta.

view, giving the value is a responsibility for informal institution that as known the home and non-formal institutions. Both of them can also be known with the name, the public. To reinforce this empirical view, the results of a survey conducted by Hugh Harshorne and Mark May<sup>2</sup> that is often used as a reference. This study concludes that (a) there is no relationship between the character training and actual behavior, (b) the moral behavior of person is not always consistent from one situation to another situation, (c) there is no relationship between what someone said about morals and what someone did, and (d) fraudulent behavior is not almost done by everyone.

Meanwhile, for those who are optimistic, the value is a necessity in the educational institutions. In optimistic view, the institution has a strategic role and has a quite effective approach in instilling the values to the younger generation. Basically there is no institution that can break away from the value, either directly or indirectly. In fact, the original purpose of convening education, are creating a good human being, creating totality and creating maturity. Kirschenbaum<sup>3</sup> stated that the heart of character education is teaching the values and moral virtue. In the research on the relationship of character education and academic achievement. Edward Wynne<sup>4</sup>, has found that (a) the character education has a positive influence on academic achievement; and (b) the approach of character education are more likely than modern techniques in generating good behavior among school students.

In the optimistic view, character education and values can be likened as a cure for moral decay in society. The cure is considered more urgent because the disease and moral decay of society actually has occurred in young age or in school age. Thomas Lickona<sup>5</sup> summarizes 10-destructive behavior that occurs in adolescence, those are doing violence and vandalism, stealing, cheating, not respecting the figure or figures of authority such as a parent or teacher, having peer cruelty, having bigotry, using rude language, knowing harassment and sexual development too fast, increasing selfishness and decreasing responsibilities as citizens, and trying to spoil young age. James Arthur<sup>6</sup> also presents a list of problems that accompany teenage school, starting from: cases of suicide, teen pregnancy and abortion, the level of crime such as stealing, alcohol and illicit drug use, sexual activity and sexual abuse, skipping school, and having mental health problems.

When you see the development of contemporary education, optimistic view was more dominant than the skeptical view. It can see first from the more intensive publication of books and other media that associates with various values of character education. The second it can see in the establishment of various institutions or commissions to oversee the idea of character education. And, the third it can see in various state policies, including Indonesia, which pro- optimistic view of the character education. Mary M. Williams<sup>7</sup>, in one of his articles, *Models of Character Education*, stated:

*Today, schooling must be about both character and academic competence, focusing on*

- 2 James Arthur, *Traditional Approach to character Education in Britain and America*, dalam Larry P. Nucci & Darcia Narvaez, *Handbook of Moral and Character Education*, New York: Routledge, 2008, page. 86.
- 3 E.H. Robinson III, Karyn Dayle Jones & B. Grant Hayes, *Humanistic Education to Character Education: An Ideological Journey*, *Journal of Humanistic Counseling, Education and Development*, September 2000 Volume 39, page. 22-23.
- 4 Barbara J. Duncan, *Character Education: Reclaiming the Social*, *Educational Theory/Winter 1997/Volume 47/Number 1*, page. 121-122.
- 5 Thomas Lickona, *Eleven Principles of Effective Character Education*, *Journal of Moral Education*, 25/1, 1996, page. 93-100.
- 6 Arthur, *Traditional Approach to character Education in Britain and America*, dalam Larry P. Nucci & Darcia Narvaez, *Handbook of Moral and Character Education*, New York: Routledge, 2008, page. 88.
- 7 Mary M. William, *Models of Character Education: Perspective and Developmental Issues*, *Journal of Humanistic Counseling, Education and Development*, September 2000 Volume 39, page. 34.



*achieving a balance between the cognitive, affective, and behavioral domains at the different stages of child development.*

However, the centralization of these values usually branches when it comes to a critical question about the value of what and whose values should be instilled, as well as how to transmit and transform these values in the plurality of society values and stages of development of learners. And also the parties which are considered as a representation of the various interests that have authority in determining these values, is involved. J. Mark Halstead<sup>8</sup>, states that there are two tasks waiting to be answered by the bearer of character education concepts. Those are (a) to identify the appropriate values and (b) to transmit the values that have standardized on the learner through the facilities that step on lines of educational institutions such as curriculum, sports, community, funding agencies, extra-curricular activities, educator - learner relationship, structure and management of the school, and so forth.

Although there is a belief in the character education that said there are values of virtue that should be part of education for all learners, however, identify the values of character education is not easy. It can be seen from the varied list of character education values are not always the same between one character to another, between one view and another view, or between one country and another country.

There factors that lead to the differences in determining list of the values are (a) the difference in the set where fundamental values and where the secondary values, and (b) the differences in the character set definition of education itself. For example, the Ministry of National Education (right now known as the Ministry of Education and Culture) makes priority to religious value as the value of character education because religiosity is considered as a fundamental value. In addition, the value of religiosity occurs from the notion of character education as a process of forming a whole person, which includes physical and spiritual.

One fact that can not be avoided when discussing character education is a matter of definition. There is almost certainly no agreement about what the definition of character education. When it is traced even further, one of the bases of the disagreement is a difference on how people understand the nature of the character. For example, if a character is understood as a moral, it will bring forth a similar understanding of character education with moral education. That is the same if a character education distinguished by moral education. James Arthur<sup>9</sup> saw that character education is a specific approach to moral education, so moral education has a wider scope than character education. Thus, these three issues, those are: character, character education, and values education are integral characters that can not be separated. Furthermore, this section will describe three things in the following discussion questions to further provide an understanding of the values of character education.

## **B. CHARACTER AND CHARACTER EDUCATION**

The discussion about character and character education equal to entering the full definition of conflict and ideology. There are so many differences and disagreements. This difference is considered by some as something negative and counter-productive, while for others it is regarded as something positive and productive. For example, in the view of James Leming<sup>10</sup>, differences in

8 J. Mark Halstead, *Values and Values Education in School*, dalam J. Mark Halstead & Monica J. Taylor (ed.), *Values in Education and Education in Values*, London: RoutledgeFalmer, 1996, page. 8.

9 James Arthur, *The Emergence of Character Education in British Education Policy*, *British Journal of Education Studies*, Vol 53 No 3, September 2005, page. 240.

10 James Arthur, *Traditional Approach to character Education in Britain and America*, dalam Larry P. Nucci & Darcia

the definition of restrictions on the character would be a hindrance to the effectiveness of character education as educators that will not have a clear framework to work with. Meanwhile, Andrew Kaplan<sup>11</sup> has argued that the plurality of character sense should not prevent the productivity and effectiveness of character education. It is precisely these differences give each strut one another to provide an overview of the framework more completely.

In etymological term, the term character derived from the Greek meaning *karasso* that means blueprints, basic formatting, fingerprints<sup>12</sup>. The initial idea of “character” in Greek thought with regard to morality, namely the moral good, is basically expected something inherent in one's personal and something that is not acquired automatically but that is through acquisition and business<sup>13</sup>. The character is not something that can be installed and removed easily because it has stuck and become part of one's identity. However, how to achieve or to obtain the difference views between Plato and Aristotle. For Plato, a person has good character when we understand goodness and acted as well. Whoever knows goodness, the person will not leave the behavior of goodness. Meanwhile Aristotle's view is different. He said that a person can be good because of practicing good action. Character acquired by habituation in the action and not through the knowledge of thought. However, the two are different. The similarities view character is not given but those are obtained achievement or something cultivated. They also agree that ethical behavior is something that can be taught and should be taught as early as possible.

In the *Oxford English Dictionary*<sup>14</sup>, it explained that the character comes from the Greek. That means an instrument to mark and scratch, printing, labeling, marking a clear, prominent feature. It is also defined as a collection of moral and mental qualities that distinguish one person or a race. In the *Kamus Besar Bahasa Indonesia*<sup>15</sup>, the meaning of character traits psychological, moral, or character that distinguish one person with another person: the nature and character.

Etymological sense or understanding of grammar and a dictionary, it could be an important clue to understanding what the character is. However, further exploration is still required. Joel J. Kupperman<sup>16</sup> determined that the term character does not have a single meaning in all its use. In some ways, he said that the characters have a common understanding of the personality. This is evident from the way people define them as quality or set of qualities that make a person himself and makes it different with others. It can not avoid that character one person to another is almost certainly not the same, so the personality and character seem to have the sense very closely. However, in other contexts both of these also have a different understanding. If the definition of personality more emphasis on individuality and difference with another individual, that is different with the character itself. For example, if a person has no personality, it means that the person does not have the distinguishing feature with other people. Meanwhile, when it is said that a person does not have the character, then it implies that the character is not yet formed. In the language of John Locke, it is like an empty board there has not been any written or engraved on it.

Meanwhile, the notion of character is also often used interchangeably with the moral

---

Narvaez, Handbook of Moral and Character Education, New York: Routledge, 2008, page. 80.

11 Andrew Kaplan, *Conversing About Character: New Foundation for General Education*, Educational Theory/ Summer 1995/Volume 45/Number 3, page. 365-366.

12 Doni Koesuma A, *Pendidikan Karakter: Utuh dan Menyeluruh*, Yogyakarta: Kanisius, 2012, hlm. 55.

13 James Arthur, *Traditional Approach to character Education in Britain and America*, dalam Larry P. Nucci & Darcia Narvaez, Handbook of Moral and Character Education, New York: Routledge, 2008, page. 80-81.

14 Joel J. Kupperman, *Character*, New York, Oxford: Oxford University Press, 1991, page.3.

15 *Kamus Besar Bahasa Indonesia*, Jakarta: Balai Pustaka, 1989.

16 Joel J. Kupperman, *Character*, New York, Oxford: Oxford University Press, 1991, page. 1-17. The descriptive paragraph below is brought by Kupperman that pointing the part of book pages.

sense. Despite having a close relationship, according to Kupperman, a character has a different understanding of the moral sense. As an example case, a person can very easily become discouraged and depressed (this is a character) without having to be regarded as an immoral, and people usually just call weak or having less strong character.

According to Kupperman, character also implies that there exists a relationship between thoughts and actions. Characterized by a person's actions as the result of thought is not the result of coercion. When someone does an act of necessity, then people will call it contrary to his character. Exposure based on various sides of the character, Kupperman comes up with the definition of the character as follows:

*X's character is X's normal pattern of thought and action, especially in relation to matters affecting the happiness of others and of the X's, most especially in relation to moral choice.*

This definition makes clear that, *first*, the normal pattern is defined as something that is fixed in a variety of circumstances. For example, a person will continue to give aid to people in desperate need under any circumstances. *Second*, the character is composed of two entities, those are thoughts and actions. Character is not just something to think about, but it manifests in action and character. It also means a person acts with full consideration. *Third*, related to the moral character, despite having a different sense. For example, people with strong character will emerge from the downturn and it can not be referred to as moral or immoral. But the rise can show moral choices a person, for example for the happiness of their parents or families.

Meanwhile, Emmanuel Mounier<sup>17</sup>, defines the term character into two (2) ways, those are a result of character and character as a process. As a result, the character implies a set of conditions that have been given away, or there was just like that, which is more or less forced on us. Meanwhile, as a process, character means the power level at which a person is able to control the condition. The character is more of a desired process.

Another view put forward by Andrew Kaplan<sup>18</sup> (1995: 366-377). He argued that the term character is an umbrella term that combines two humans are moral virtue and reason; characters also combines the two processes of human life to reason and act. So concluding what Kaplan said, understanding search character is not a journey to the point of singularity of meaning but a plurality of meanings that mutually support one another and not mutually exclusive. He classifies 4 (four) approaches to understanding the character. *First*, that is elemental sense which is to see the characters as something permanent, unchanging, and underlies about who the real person. The phenomenon of a person's activity is something that is beneath the surface and there is something underlying and unchanging character. These basic elements can constitute impulses unconscious or something inherent as a result of conscious adaptation to environmental forces. *Second*, the dramatic sense which is to see the characters as something more fluid and elastic. In this sense, the role of a learned character is to be displayed in accordance with the rules or certain stages, as well as a role in the game or the game. In this sense, the characters can be challenging under the layers that underlie human action in order to adjust to specific roles.

*Third*, the social understanding which sees the character as a public position occupied by a person, which is obtained through a long process such as internships or periods of service in an institution. A character in this sense is a package of behavior adopted and continues over time. *Fourth*, the ethical sense which is to see the character as a result of a continuous process of

17 Doni Koesuma A, *Pendidikan Karakter: Utuh dan Menyeluruh*, Yogyakarta: Kanisius, page. 56.

18 Andrew Kaplan, *Conversing About Character: New Foundation for General Education*, Educational Theory/ Summer 1995/Volume 45/Number 3, page. 360-375.



choosing life in the act of something that is considered good and scrutinized the process in order to understand the consequences of a choice as perfect as possible. The characters in this sense is a kind of wisdom which is applied to all kinds of meaningful decisions.

Furthermore, character education activists, like Ryan and Lickona, more emphasis on the aspect of understanding the characters 'quirks' (habits), the character is a collection of one's habits. Meanwhile, other figures emphasize the cognitive aspects. The figures such as DeVries and Berkowitz emphasize awareness, understanding, reasoning and establishment<sup>19</sup>.

By presenting some case examples of how the experts define the character, it can be understood if there is no single understanding of what the character is. So, in this case, it can be understood if there is also no single definition or no single understanding of character education. As the deepening of the discussion, it can be shown some character educations as definition of the exponents or activists or supporters that vary from each other.

1. Wayne Ryan and Thomas Lickona<sup>20</sup> define character education as a process of knowing the goodness, love kindness, and to do well. With this definition also Lickona develop three (3) models of character education. *First*, students learn the moral of the socio-cultural heritage. This heritage is not static, but is subject to change or be changed. This model emphasizes moral reasoning, decision making, and the ability to acquire knowledge through self-review and evaluation of the action. *Second*, the affective domain, it includes feelings such as sympathy, care and love for others. This is a bridge to the realm of action or actions. *Third*, the model emphasizes the will, competence and one's habits. In the will, the learners are trying to overcome a sense of self-interest in acting. In the competency, learners must develop the basic skills to do something good. In the habit, learners do a kindness repeated to form a pattern.
2. Anne Lockwood<sup>21</sup> defines character education as any program instituted in the school, designed in collaboration with other community institutions, to shape the behavior of young people directly and systematically through the provision of values influence the non-relativistic so that it appears in the behavior. She says in detail, character education (a) must be supported by controlled curriculum and the goals set at a level that can be supported by the public and consensus, (b) the target behavior is part of character education, and (c) anti-social behavior learners arises because of the lack of value.
3. Vessel & Boyd<sup>22</sup>, have said character education is a strategic learning that supports social and personal responsibility, and the development of the elements of good character and moral virtue. This definition indirectly to say that implies personal character, which is something that is related to the self and the social, which is something that is related to another person. In addition, understanding the character has a close connection with moral issues, namely the question of good and bad.
4. Ryan and Bohlin<sup>23</sup> define character education as a process of developing habits that virtue and good character that leads students to be responsible and mature.

19 Mary M. William, *Models of Character Education: Perspective and Developmental Issues*, Journal of Humanistic Counseling, Education and Development, September 2000 Volume 39, page. 38.

20 James Arthur, *Educating with Character*, London & New York: RoutledgeFarmer, 2003, page. 115.

21 James Arthur, *Traditional Approach to Character Education in Britain and America*, dalam Larry P. Nucci & Darcia Narvaez, *Handbook of Moral and Character Education*, New York: Routledge, 2008, page. 90.

22 Quinn M. Pearson & Janice I. Nicholson, *Comprehensive Character Education in the Elementary School: Strategic for Administrators, Teachers, and Counselors*, Journal of Humanistic Counseling, Education and Development, Juni 2000 Vol 38, page. 244.

23 James Arthur, *Traditional Approach to character Education in Britain and America*, dalam Larry P. Nucci & Darcia Narvaez, *Handbook of Moral and Character Education*, New York: Routledge, 2008, page. 88.



When many leaders or experts see character education as a matter of terminological definition, it is not the case with the *National Commission on Character Education of America*<sup>24</sup>. The commission sees character education as an umbrella term that houses a variety of different approaches on the existing character education. The idea of character education includes a variety of approaches or different and diverse genres, such as the theory of the stages of cognitive development (Piaget), and a question and answer dialogue techniques *sokratiesian* (Aristotle), progressive democratic practice (Dewey), up to the ethics matter in building community (Nodding). The Commission briefly defines character education as:

*Any deliberate approach by which school personnel, Often in conjunction with parents and community members, help children and youth become caring, principled, and responsible.*

When using this broad understanding of nature, the analysis Karen E. Bohlin<sup>25</sup>, in the *Teaching Character Education Through Literature*, there are 4 (four) genre approaches in character education, which approach Dewey and Kohlberg's theory of moral cognitive development, values clarification approach, approach-building skills, and virtue ethics approach.

*First*, that is Dewey Progressivism approach and cognitive moral development Kohlberg/Piaget. The approach recognizes that individuals proceed through the stages of development of different hierarchical qualitatively at each stage. Piaget and Kohlberg emphasize regions and the development of moral reasoning. Havighurst's theory emphasizes social development. Loevinger emphasizes theory of ego development. According to Piaget, the children develop from a pre-operational phase to the operations phase of the real; children also evolve from being egocentric to the next phase of sociocentris that means everything in the perspective of self-centered perspective towards others. According to Kohlberg, those are evolved from the level of pre-conventional moral reasoning based on punishment and reward to the conventional level of moral reasoning, based on social adjustment. According to Havighurst, morally child at an early stage, children learn to distinguish between what is right and what is wrong. The next stage children learn to recognize their peers and also develop attitudes toward group consciousness and social institutions. Meanwhile, according to Loevinger, the theory of ego development, the children move from self-protection phase in which the child obediently rules in order to get what they want towards the conformist stage where children appreciate a good attitude, a helper, and cooperation with others.

The first approach is more pressing some points, those are: the characters in problem solving, democratic participation, improved moral reasoning, community building, and ethics of caring. This approach was developed further in the works Noddings, DeVries, and Schapps.

*Second*, values clarification approach developed by Raths, Harmin, and Simon. The purpose of this approach is to empower learners in identifying and defining their personal values regardless of its moral content. Raths, Harmin, and Simon<sup>26</sup>, stated that "we can not dictate to children... we may raise questions, but we can not 'lay down the law' about what a child's values should be" (We can not dictate to us should ask a child.. question, but we can not be 'stretched the law' about what kind of value should be owned subsidiary). Thus, the last determinant is located on the children themselves.

*Third*, that is skills-building approach. This approach is basically an integration of theory and

24 Mary M. William, *Models of Character Education: Perspective and Developmental Issues*, Journal of Humanistic Counseling, Education and Development, September 2000 Volume 39, page. 33.

25 Karen E. Bohlin, *Teaching Character Education Through Literature*, London & New York: Routledge Falmer, 2003, page. 2-5. The descriptive paragraph bases on the page of this book.

26 Joseph F. Governali, *Health Education and Character Education*, Journal of School Health, November 1995, Vol 65, No 9, page. 394.

developmental psychology with character education. Narvaez<sup>27</sup> elicits this model of integration which he described as 'Integrative Ethical Education', which saw the character as a set of component skills that can be embedded on a high level of expertise. He identifies skills a person with good character and believes that children grow and develop within a swing of the leading experts in early learning in every realm of the ethical content of what he learned. The real ethical expertise requires interaction with a challenging environment by using an abundance of process, knowledge and skills. The approaches to ethical expertise in the character education requires an orderly school environment agency in which the child can understand and develop skills along with opportunities for focused practice. This approach appears, in order to form social intelligence and conflict resolution skills, to rescue sexual behavior and prevention of drugs and alcohol that emerges from the social and emotional learning movement.

*Fourth*, that is the approach emphasizes the primacy of ethical traditions and focus on the development of intellectual and moral habits. This approach is also known as the traditional approach. This approach was developed among others by Lickona, Wynne and Ryan, Ryan and Bohlin, Arthur. It is said to be a premier approach as meaning two things, *first*, its roots are deep in the traditional world of moral thinking at the time of Ancient Greece and, *second*, the method, which emphasizes 'indoctrination', habituation and models.

Such revisits the traditional idea of moral and character, advocates this approach as Lickona, Wynne, and Ryan that reproduce much Plato and Aristotle. Lickona<sup>28</sup> states that throughout its history the purpose of education is to focus on helping children become "smart" and "good". argues that smart and good are not the same, since the society from the time of Plato has made moral education as an essential part of the education. He also adds, Aristotle defines as a living character with good behavior, in relation to self and others. This is something that needs to be reproduced continually, especially through education. Living with good character means good life for you with self control and simple way, and live with a good character for others with sympathy and generosity.

Meanwhile in terms of method, the proponent of the traditional approach is agreed that the maturity of moral and character education requires direct instruction and closely guidance. Even if there need to be rules and procedures for character education, so that education institutions should identify the values of character and values to help create the character of virtue in children<sup>29</sup>.

Of the four approaches, if summarized in general can be classified into two approaches, those are the indirect approach (including approximation theory of cognitive moral development, values clarification, and skill - building) and the direct approach (traditional approach)<sup>30</sup>. The direct approach assumes that the character is something that is fixed and the indirect approach sees that the characters evolve in the process. When the direct approach assumes the character of the dimension of action, then the indirect approach emphasizes the dimensions of reasoning.

Direct approach is an approach that encourages young habituation to the virtues of the community. This approach focuses on training habits. More direct approach based on the traditional view, emphasizes the importance of moral tales and examples of good practice. What is needed in this approach is an exemplary role, rules, discipline. This approach is also having the view that

27 James Arthur, *Traditional Approach to character Education in Britain and America*, dalam Larry P. Nucci & Darcia Narvaez, *Handbook of Moral and Character Education*, New York: Routledge, 2008, page 92.

28 Josep F. Governali, *Health Education and Character Education*, *Journal of School Health*, November 1995, Vol 65, No 9, page. 394.

29 James Arthur, *Traditional Approach to character Education in Britain and America*, dalam Larry P. Nucci & Darcia Narvaez, *Handbook of Moral and Character Education*, New York: routledge, 2008, page. 93.

30 The descriptive of directly approach and undirectly approach bases on Barbara J. Duncan, *Character Education: Reclaiming the Social*, *Educational Theory*/Winter 1997/Volume 47/Number 1.

the students or children should know how to reach a level of moral literacy first and then they may have thought based on the moral literacy. Students are encouraged by the example of the classic, traditional stories, poetry, and literature containing ideas about morality and goodness that allows students to live in the future. This view uses the approach of "intervention" in the moral development of children, and not to explore the cultural context of the child, but to give a good example.

Meanwhile, the Indirect Approach focuses on building understanding and development of socio-moral development of children. This paradigm emphasizes the importance of dialogue and reasoning. This approach seeks to help students themselves define moral values and moral values of others, and thus also the reason behind the moral values which may be the same or different between himself and others. The assumption is that when the children grow and develop competence in the field of cognitive and reasoning through cooperation with others, then the same is true in the field of morals.

In this approach, the children are not familiarized with certain moral values that form certain characters, but this approach considers with invited discussing and reasoning about moral dilemmas around children in everyday life. An example is the dilemma between the rights of individual ownership of certain goods and human values resulting from the goods. Children are invited to interact and analyze accompanied by teachers or parents.

The purpose of this approach is not only uphold and develop a healthy school community atmosphere, but reaching a broader perspective that encourages students to see themselves as part of a community of democratic and pluralistic society more broadly.

Given the differences in approach, it is often appearing critique each other. For example, the progressive traditional approaches often alarming about how the approach is limited because it treats the child individually rather than socially. Between Kohlbergian and Piagetian also criticized conformity to the values regardless of the child's cognitive development<sup>31</sup>.

Meanwhile, the traditional approach is equally harsh in criticizing others behind the three approaches. According to Bohlin (2-3)<sup>32</sup>, and cognitive developmental approach to moral progressif, though it can provide important insights, but it is not sufficient to teach the children who are growing up in the values identifying meaningful life. The approach is considered to have failed because they did not provide sufficient motivation to lead towards a better life. Without an adequate understanding of what is referred as a good moral and a good moral action, reasoning moral will only lose orientation. Likewise, without a clear understanding of what is good morally and what is good usefully, value clarification approach is a wasted effort. And also, having social skills and having conflict resolutions that are studied outside, the context of the moral can only produce skilled individual behave without having a value commitment. The goal of character education can only be met in the traditional approach of linking moral actions with human excellence and leadership in the good life.

Although it is in a position to criticize each other, the tendency in the implementation of character education leads to more similarities than differences. Kevin Ryan<sup>33</sup> (Duncan, 1997: 120) states that character education has entered a new phase, which is characterized by increasingly

31 Mary M. William, *Models of Character Education: Perspective and Developmental Issues*, Journal of Humanistic Counseling, Education and Development, September 2000 Volume 39, page. 36.

32 Karen E. Bohlin, *Teaching Character Education Through Literature*, London & New York: RoutledgeFarmer, 2003, page. 2-3.

33 Barbara J. Duncan, *Character Education: Reclaiming the Social*, Educational Theory/Winter 1997/Volume 47/ Number 1, page. 120.



round reflux difference between the theorists who are competed for the strengthening and learn from each other. Character education becomes a phenomenon in the middle between the two extremes of cultural assimilation approach and moral cognitive development. The character education advocates are also increasingly aware that character education is a social process, and the learners internalize the discourses that surround them. Rationality is not ignored; just tend to not be stressed too much.

From the intersection-intersection is then established the principle and practices of highly fertile methodological in character education. That bears the thought more practical and programmatic in education. Some of the names can be included here to show the character education program, as follows<sup>34</sup>:

1. Thomas Rusnak develop six (6) principles approach. First, character education should not be seen as a special subject matter. Should it be integrated into any subject matter in school and forming part of a planned experience for each student? Second, character education should be seen as an 'educational measures' (action education), which includes commitments and actions for both educators and students. Third, character education established and built environment through the school, which is a positive atmosphere, climate or ethos of the particular school. Fourth, character education must be part of the mission and policies created by the school. Fifth, character education must be taught by educators who can empower and free from pressure or limitations of the centralized curriculum. Sixth, character education must include the whole school environment and local communities in the vicinity.
2. Bill Puka identified six (6) methods of teaching character education. First, teaching is based on the values and basic virtues. Second, the rules of conduct have to be enforced and enforced. Third, tell stories with moral content. Fourth, give an example or role model in the characters and the desired values. Fifth, spread moral examples in history, literature, religion, and praise their virtues. Sixth, provide an opportunity to be involved in the school and community so that students can experience the characters well and follow good values.
3. Thomas Lickona outlines 11 (eleven) on the principles of character education plan. First, the school should be committed to the basic ethical values. Second, the character is thoroughly defined including thoughts, feelings and behaviors. Third, schools should pro- actively and systematically in the teaching of character education and not merely waiting for opportunities to come. Fourth, the school must develop an atmosphere of caring and being a microcosm of the community concerned. Fifth, the opportunity to practice moral action should be varied and available to all. Sixth, academic studies must remain central. Seventh, the school needs to develop ways to increase the intrinsic motivation of students who did better commitment to core values. Eighth, schools need to work together and have the same norm for character education. Ninth, educators and students should have the same moral leadership in the school. Tenth, parents and the community should be partners in character education in schools. Eleventh, to evaluate the effectiveness of character education in the school, that is good for students and the entire staff.

## C. VALUES AND VALUES CHARACTER EDUCATION

In general, the central value is something that is related to the theory and practice of education. On the one hand, education is believed to have an important role in the creation of value for

34 Look at, James Arthur, *Educating With Character*, London & New York: RoutledgeFarmer, 2003, page. 113-131. Juga James Arthur, *Traditional Approach to character Education in Britain and America*, dalam Larry P. Nucci & Darcia Narvaez, *Handbook of Moral and Character Education*, New York: Routledge, 2008, page.93-94.



students, in addition to other institutions such as the family and the media. While on the other hand, education is also regarded as a representation of the values that flourish in society at large. So, the position of education is in a position to influence and being influenced in terms of value.

In order to explain the notion of value, Hill stated that<sup>35</sup>:

*When people speak of values they are usually referring to those beliefs held by individuals to the which they attach special priority or worth, and by the which they growing niche to order their lives. A value is, therefore, more than a belief; but it is also more than a feeling.*

In one article, entitled *Values and Values Education in Schools*, J. Mark Halstead<sup>36</sup> summarizes some understanding of the value of some experts about the value of theories. *First*, according to Raths, Harmin, and Simon, values are beliefs, attitudes or feelings where someone feels proud, confirmed by the audience, selected with consideration and not through persuasion, and done repeatedly. *Second*, according to Fraenkel, the value is the emotional commitment and ideas of propriety. *Third*, according to Beck, the value is things (like objects, activities, experiences, etc.) that sustain the balance of human happiness. *Fourth*, according to Shaver and Strong, the value is a standard or our principle to assert advisability. Value is criterion where we assert about the things (people, objects, ideas, actions, and situations) that is good, useful and desired, or on the opposite, that is bad, useless and unwanted. Meanwhile, he himself defines value as follows:

*Principles, fundamental convictions, ideals, standards or life stances the which act as general guides to behavior or as points of reference in decision-making or the evaluation of beliefs or action and the which are closely connected to personal integrity and personal identity.*

In addition to differences in the definition of an issue, the issue of value also extends to various different views to open and to respond the value. For example, there is the view that value is something that is fixed and unchanging, while there are others who believe that value is not something fixed and always changing with the times. If the value is seen as something that is fixed, then people will be more emphasis on how to maintain and preserve its value. On the other hand, if the value is considered as something that can be changed, people will be more emphasis on the attitude of how to transform the values at each developmental time.

People also have different views about whether certain values such as moral, social, political, religious a particular value or universal values. On the one hand, when considered as a particular value, then the value can only grow and flourish in a more limited scope and should not enter the public spaces. On the other hand, when considered as a universal value, then these values will tend to be applied in any environment and social strata of society.

In general term, the notion of value can be classified into three (3) views; those are absolutism, relativism, and moderate<sup>37</sup>. *First*, absolutism holds that value as something that can be applied at any time and anywhere. For example, the act of a person to be honest regarded as an absolute value without having to look at space and time wherever the person is. *Second*, value relativism, which holds no single value, can be considered more important or better than another value. Every person

35 Stephenson (ed.), *Values in Education*, London & New York: Routledge, 1997, page. 3.

36 J. Mark Halstead, *Values and Values Education in School*, dalam J. Mark Halstead & Monica J. Taylor (ed.), *Values in Education and Education in Values*, london & New York, RoutledgeFalmer, page. 4-5.

37 Mary Warnock, *Moral Values*, dalam J. Mark Halstead & Monica J. Taylor (ed.), *Values in Education and Education in Values*, london & New York, RoutledgeFalmer, page. 44-46. Also J. Mark Halstead, *Values and Values Education in School*, dalam J. Mark Halstead & Monica J. Taylor (ed.), *Values in Education and Education in Values*, london & New York, RoutledgeFalmer, page. 4-7.

has value, and no one's value exceeds its merits compared to the value of others. All values are valid. *Third*, moderate grades, which holds that there are values that can be agreed upon by everyone, but there are also the values that are not agreed upon by everyone. This view assumes that people can share in the same values, for example values that are fundamental such as tolerance, mutual respect, mutual respect, and so on. The values can be adopted and developed in each community. Nevertheless, moderate views of values also recognize the subjective value that is believed by any personal or part of the wider community.

With the background of a moderate view of value, it can be understood if, *first*, there are so many lists of values that have the same character education and have been considered as fundamental, and *second*, there is also a list of values that are not equal to each other or a list of specific values that are considered as fundamental but are not considered as fundamental by the other group.

The discussion on the value of character education can also be seen as a tactical move to get out of deadlock due to the abundance of understanding character education. So even though there is no definition of character education that can be acceptable to all parties, it does not mean it's a dead end. In a statement P. London<sup>38</sup>, it is more important to identify the values associated with good character. Although the list of such values could be as much as the definition and character education, but at least there are the same values displayed by experts, authors, or a different character. The following will be displayed multiple lists character education values compiled by several leaders, experts, activists or organizations who put the matter on the issue of character education<sup>39</sup>.

1. Thomas Lickona in *Educating for Character* classifies the values of character education into three areas, those are (a) the domain of moral knowledge which includes moral conscience, knowing moral values, perspective-taking, moral reasoning, decision making, and self-knowledge; (b) domain of moral sense, which includes conscience, self appreciation, empathy, love kindness, self-control, and humility; (c) the realm of moral action which includes competence, willingness and habits.
2. J. Braun in *Caring, Conscience Citizenship* exposes the values that are considered generally accepted in the various cultures, which include honesty, respect for the property of others, and to be compassionate to the poor.
3. Pyszkowski in *Moral Values and the Schools* describe the main points in the fundamental values of democratic system which includes a fair, equal, sportsmanship, kindness, and honest.
4. Barnhill in the *Speak Up for Character* developed six pillars of character which include trustworthiness, respect, responsibility, fairness, caring, citizenship and the virtues.
5. *Character Counts*, a program that focuses on the character building in America long enough to provide a list of values that include the excitement of character education, citizenship, cleanliness, compassion, cooperation, courage, courtesy, creativity, trustworthy, diligent, fairness, benefactor, helper, honest, volatility, generous, loyal, patient, diligent, punctual, respectful, respecting the environment, responsibility, pride in school, self-control, loves to exercise, and tolerant.

38 Mary M. William, *Models of Character Education: Perspective and Developmental Issues*, Journal of Humanistic Counseling, Education and Development, September 2000 Volume 39, page. 244.

39 Taken by some sources. Josep F. Governali, *Health Education and Character Education*, Journal of School Health, November 1995, Vol 65, No 9, hlm. 394-396. Karen E. Bohlin, *Teaching Character Education Through Literature*, London & New York: RoutledgeFarmer, 2003, hlm. 6-7. Sharron L. Mc Elmeel, *Character Education*, page. xxiii-xxiv.

6. Sharon L. McElmeel has explained in Character Education 17 (seventeen) is important in the education of characters that include caring, confident, generous, curious, flexible, friendship, ability to set goals, humility, humor, initiative, integrity, patience, diligent, positive attitude, problem solver, self-discipline and teamwork.
7. Komensky provides a list of core values, which include fair, moderate, firmness, attitude, fair, commitment to duty, hard work, and generous.
8. Ministry of Education (now the Ministry of Education and Culture) identifies the values of character education into 5 (five) domains, those are (a) in relation to the realm of God or religiosity that includes thoughts, words and actions are always based on the sought values divinity and/teachings of his religion; (b) in relation to the realm of self, which includes an honest, responsible, healthy lifestyle, discipline, hard work, self-confident, entrepreneurial, think logically, critically, creative and innovative, independent, curiosity, love science, (c) in conjunction with other domains, which include the rights and obligations aware of self and others, abide by social rules, appreciate the work and achievements of others, polite, democratic; (d) sphere in relation the environment, which includes love of the environment, and (e) the realm of national values, which include a sense of nationalist and appreciate diversity.

Of these differences, there are various ways to classify the distribution of these values for easy grouping. According to Pearson & Nicholson<sup>40</sup>, a variety of different values can be classified into three areas relate to each other, namely (a) how individuals relate to themselves, (b) how individuals relate to others, and (c) how the individual relates to the wider community. Region on how individuals relate to him include values such as responsibility, self-discipline, perseverance, and respect ourselves. Region on how individuals relate to others (in the sense of classmates, friends, and other people important) includes values such as honest, respectful, generous, and empathy. While the area on how individuals relate to the broader community environment, can include values such as fairness/honesty, fairness, and citizen virtue.

All three areas are not independent but interconnected. Even by Mary Elizabeth Mullino Moore<sup>41</sup> (103-120), education is essentially relational. He classifies five (5) regions in the individual relations in education. *First*, it is the relationship with yourself. In this relation, education is the process of finding oneself (self-discovery), criticism (self critique) and expansion (self-enlargement). In this case, education can help increase critical awareness and character development when there is no process of raising awareness of learners will boost self (passion), values, and concern. *Second*, that is the relation with community and culture. In this relation, education is a process of discovery, analysis, criticism, deepening, and the transformation of the community and culture. Education can encourage respectful relationships within the learning community, the wider community, with a broader cultural matrix, thus contributes in determining the relationships within the family, community, and cultural development.

*Third*, that is relationships with different people. Relationships with different people are inevitable. In this relation, education is a process of dance with diversity, which enters the process, perspectives, practices, and diverse lifestyle. In this case, education can increase knowledge, appreciation, understanding, negotiation, and reconciliation even across different communities. *Fourth*, that is about his relationship with the ecological environment. In this relation, education

40 Quinn M. Pearson & Janice I. Nicholson, *Comprehensive Character Education in the Elementary School: Strategic for Administrators, Teachers, and Counselors*, Journal of Humanistic Counseling, Education and Development, Juni 2000 Vol 38, page. 244.

41 Mary Elizabeth Mullino Moore, *Nourishing Relationship That Nourish Life*, dalam George Allan & Malcom D. Evans, *A Different Three Rs for Education*, New York: Value Inquiry Book Series, 2001, page. 103-120



is the process of connecting individuals with the development and future of the earth as a human ecological environment. Education is a process of appreciation, received from, learning from and care for the Earth and all human life rests. In this case, education can improve own self involved participants in the various forms of interaction with the natural world, so it can improve ecological awareness, joy and ethical practices. *Fifth*, that is about the relation with the social structure. Within these relationships, education is the process of connecting a person with social and political structures that can enrich the positive things in all kinds of relationships. In this case, education can be interactive actions, public that having a purpose, invited to conduct interdisciplinary reflection, communal analysis, and constructive criticism in the microstructure of the school and the wider structures (society).

One of the important targets in the list of exposing various values of character education is to find meeting points and equations. When examined, there are some average values appear in the list of figures, activists or different institutions. Cass Sustein<sup>42</sup> stated that in a pluralistic society is very possible disagreement value in the set of fundamental values, but such people also can reach an agreement in a particular region. This type of arrangement does not always have to be perfect, so he named as 'incompletely theorized agreements on particular cases', but the agreement could serve as a common ground to share the same values.

Some have the same value in the list of values between the figures with other figures can be found, such as:

1. *Caring*, it means an attitude or action where someone put the matter or put the interests to others and other situations.
2. *Confidence*, it means the belief in a person and the person's ability to achieve a success.
3. *Courage*, it means the firmness of mind and the will to face a danger or an extreme difficulty.
4. *Curiosity*, it means a strong desire or passion for learning, researching or knowing something.
5. *Patience*, it means the ability to hold or waiting for something to achieve the goal.
6. *Empathy*, it means a person's mental ability to be able to identify themselves with other people or events.
7. *Responsibility*, it means a readiness to bear any risk of doing the act itself and the ability to solve problems that are inside constructively.
8. *Self-Discipline*, it means the ability to control, organizes or fixes own self in order to improve quality.
9. *Respect*, it means to treat others with care and respect, and to appreciate other points of different views.
10. *Integrity*, it means to obey a set of principles or code of values, especially moral values.
11. *Honesty*, it means the attitude to say something objectively or to say what the fact is.

## REFERENCES

- Andrew Kaplan, *Conversing About Character: New Foundation for General Education*, Educational Theory/Summer 1995/Volume 45/Number 3.
- Barbara J. Duncan, *Character Education: Reclaiming the Social*, Educational Theory/Winter 1997/Volume 47/Number 1.
- Doni Koesuma A, *Pendidikan Karakter: Utuh dan Menyeluruh*, Yogyakarta: Kanisius, 2012.

<sup>42</sup> James Arthur, *The Re-Emergency of Character Education in British Education Policy*, British Journal of Educational Studies, Vol 53 No 3 Septmeber 2005, page. 250.



- E.H. Robinson III, Karyn Dayle Jones & B. Grant Hayes, Humanistic Education to Character Education: An Ideological Journey, *Journal of Humanistic Counseling, Education and Development*, September 2000 Volume 39.
- James Arthur, Traditional Approach to character Education in Britain and America, dalam Larry P. Nucci & Darcia Narvaez, *Handbook of Moral and Character Education*, New York: Routledge, 2008.
- James Arthur, The Re-Emergency of Character Education in British Education Policy, *British Journal of Educational Studies*, Vol 53 No 3
- James Arthur, The Emergence of Character Education in British Education Policy, *British Journal of Education Studies*, Vol 53 No 3, September 2005.
- James Arthur, *Educating with Character*, London & New York: RoutledgeFarmer, 2003, hlm. 115
- Joel J. Kupperman, *Character*, New York, Oxford: Oxford University Press, 1991.
- J. Mark Halstead, Values and Values Education in School, dalam J. Mark Halstead & Monica J. Taylor (ed.), *Values in Education and Education in Values*, London: RoutledgeFalmer, 1996.
- Josep F. Governali, Health Education and Character Education, *Journal of School Health*, November 1995, Vol 65, No 9.
- Karen E. Bohlin, *Teaching Character Education Through Literature*, London & New York: RoutledgeFarmer, 2003.
- Kamus Besar Bahasa Indonesia, Jakarta: Balai Pustaka, 1989
- Mary M. William, Models of Character Education: Perspective and Developmental Issues, *Journal of Humanistic Counseling, Education and Development*, September 2000 Volume 39.
- Mary Elizabeth Mullino Moore, Nourishing Relationship That Nourish Life, dalam George Allan & Malcom D. Evans, *A Different Three Rs for Education*, New York: Value Inquiry Book Series, 2001.
- Mary Warnock, Moral Values, dalam J. Mark Halstead & Monica J. Taylor (ed.), *Values in Education and Education in Values*, london & New York, RoutledgeFalmer, hlm. 44-46. Juga J. Mark Halstead, Values and Values Education in School, dalam J. Mark Halstead & Monica J. Taylor (ed.), *Values in Education and Education in Values*, london & New York, RoutledgeFalmer.
- Quinn M. Pearson & Janice I. Nicholson, Comprehensive Character Education in the Elementary School: Strategic for Administrators, Teachers, and Counselors, *Journal of Humanistic Counseling, Education and Development*, Juni 2000 Vol 38
- Stephenson (ed.), *Values in Education*, London & New York: Routledge, 1997.
- Thomas Lickona, Eleven Principles of Effective Character Education, *Journal of Moral Education*, 25/1, 1996.



STATE ISLAMIC UNIVERSITY  
SUNAN KALIJAGA  
YOGYAKARTA

# OPTIMIZATION OF MULTIPLE INTELLEGENCES THROUGH SCIENCE LEARNING FOR SD/MI (ELEMENTARY SCHOOL) STUDENTS

Written by:  
**Sigit Prasetyo<sup>1</sup>**  
email: *siepras@yahoo.co.id*

---

## ABSTRACT

Optimization process of multiple intelligences through science learning for students of SD/MI should be done by the teacher as an actor behind the transfer of knowledge by starting from a positive stigma on the ability of the students. The abilities which belong to the students are various including linguistic intelligences, logical-mathematical, visual - spatial, intrapersonal, interpersonal, musical, and kinesthetic intelligences. The main supporting factor which belongs to the teacher is a sense of caring and sharing the equal treatment of all students. Starting from this perception, it will create a sense of high confidence for teachers on how to teach their students. Integration of science with multiple intelligences can be started by inserting the materials of science to the diverse student learning skill such as playing a character, in which it is a kinesthetic intelligence that is combined with the material of science which will be studied. The methods used are intended to encourage the student interests. The application of multiple intelligences can be applied in science learning with a method that is very varied and diverse. Thus, a teacher must have the motivation and professional skills in teaching science to the students.

**Key words:** *Optimization, Multiple Intelligences, Science Learning*

## A. INTRODUCTION

In the process of education surely a teacher finds many things related to the problems of their students. There is a very *extrovert* students even there is a very *introvert* students. *Extrovert* students refer to the students who have exceptional character which this condition can be categorized as hyper-active child who is not close to the outside world, while *introvert* students are the students who are close to the situation around them so that the teacher should be able to open the students' nature in order the *transfer of knowledge* can be run well as the expectation of teacher. However, in this the situation the teachers are required to have a role in the understanding of the characters which belong to the students themselves. Hence, the learning process here means the students understand the teachers who give understanding to them in order the process of knowledge transfer can reach an optimal point.

Based on the existing problems can be drawn a conclusion that learning style of each student has diversity or plural. Some are happy with the way by learning to music, drama, or even by using a method of self actualization. Considering from the variety of learning methods can be obtained the result of analyses that every student has various intelligences (multiple intelligences). The various characters and natures and the different brain in receiving stimulants are a challenge for a

---

<sup>1</sup> Lecturer of PGMI majors, Faculty of Tarbiyah Science and Teachership UIN Sunan Kalijaga Yogyakarta

teacher to be able to provide their knowledge in different ways. Therefore, the quality school is a school which assumes that there is no stupid student and there is no teacher who cannot teach.

One of strategies that can be used by teachers to optimize multiple intelligences belongs to the students is to use science learning as a pathway to provide a transfer of knowledge. The science learning is integrated with the learning material presented to provide optimal understanding to the students, for instance by throwing a ball or playing to open the bottles, where learning science can be found here. Throwing the ball is a physical science lesson that applies the theory of gravity, and then in opening the bottles is applied the theory of how to use a lever.

## B. MULTIPLE INTELLEGENCES

Intelligence is not fixed. Intelligence is like the ability or skill that can be cultivated and developed. Intelligence is the ability to solve a problem, the ability to create new problems to be solved, the ability to create something or offer a service that is a valuable in a culture. In this case, Gardner states that:

*An intelligence entails the ability to solve problems or fashion products that are of consequence in a particular cultural setting or community. The problem solving skill allows one to approach a situation in which a goal is to be obtained and to locate the appropriate route to that goal.<sup>2</sup>*

Furthermore, another opinion states that the theory of multiple intelligences is the highest validation of the idea that individual differences are important. The application in education is very dependent on recognition, acknowledgment, and appreciation for each or the various ways of students (learners) learning, besides recognition, acknowledgment, and appreciation for each interests and talents of individual learner.<sup>3</sup>

Gardner also states that there are seven intelligences that can be used in learning, namely: 1) linguistic intelligence (related to language), 2) logical-mathematical intelligence (related to mathematical and logic reasoning), 3) visual-spatial intelligence (relating to space and pictures), 4) musical intelligence (pertaining to music, rhythm, and sound or voice), 5) bodily-kinesthetic intelligence (relating to the body and gestures), 6) interpersonal intelligence (related to interpersonal relationships, social), 7) intrapersonal intelligence (associated with things that are very personal).<sup>4</sup>

The seven intelligences in the multiple intelligences can be described as belowed:

### 1. Linguistic intelligence

Linguistic intelligence is the ability to use words effectively, both in speaking and in writing. This intelligence includes sensitivity to the meaning of words, word order, sound, rhythm and intonation of words that are pronounced. It also includes the ability to understand the power of words in the altered state of mind and to convey the information.

### 2. Logical-Mathematical Intelligence

Logical mathematical intelligence is the ability of someone in problem solving. Someone will be able to figure out and put together a solution (exit) with a logical sequence (sense). Moreover, he/she likes numerals, sequence, logic and coherence. Further he/she understands this system and capable of doing the inductive and deductive thinking. Deductive thinking process means

2 Julia Jasmine. *Mengajar dengan Metode Multiple intelligences Implementasi Multiple intelligences*. (Bandung: Nuansa, 2007). pg. 35.

3 *Ibid.* *Mengajar dengan Metode Multiple intelligences Implementasi Multiple intelligences*. pg. 11.

4 Gardner, Howard. *Multiple intelligences* (Batam Centre :Interaksara, 2003). pg. 23.



the way of thinking from the big things to the small things. Inductive thinking process means the way of thinking from small things to big things.

### 3. Visual and Spatial Intelligence

Visual and spatial intelligence is the ability to see and observe the visual and spatial world accurately (carefully). Visual means picture. While spatial relates to the space or the place. This intelligence involves awareness of color, line, shape, space, size and also the relationship among these elements. This intelligence also involves the ability to see the object from different angles.

### 4. Musical Intelligence

A musical intelligence is the ability to enjoy the music, observe, distinguish, fabricate, form and express musical forms. This intelligence includes sensitivity to rhythm, melody and timbre of the music which is being heard. Music has a profound influence on the development of math and science abilities in a person.

Based on the results of researches in seventeen countries on the ability of students aged 14 years in the fields of sciences are found that children from the Netherlands, Japan, and Hungary have the highest achievement in the world. When they are examined more deeply, the countries incorporate this element into their curriculum. In addition, the music can also create an atmosphere that is relaxed yet alert, can encourage enthusiasm, stimulate creativity, sensitivity and ability to think. Learning by using the right music will greatly help us in improving memory.

### 5. Interpersonal intelligence

An interpersonal intelligence is the ability to observe and understand the meaning, motivation and feelings of others. It is also sensitive to the expression of the face, voice and body movements of others, and he/she is able to respond effectively in communicating. This intelligence also is able to get into the other person, understand the world of others, understand the views, understand the attitudes of others and generally he/she is able to lead the group.

### 6. Intrapersonal intelligence

Intrapersonal intelligence is the ability of someone relates to the consciousness and self knowledge. He/she is able to understand his/her own strengths and weaknesses. He/she is also able to motivate his/herself and to do self-discipline. Someone who has this intelligence is very appreciative to the values (rules) of ethical, and moral.

### 7. Kinesthetic intelligence

A kinesthetic intelligence is the ability to use body skillfully to express ideas, thoughts and feelings. This intelligence also includes the physical skills in the areas of coordination, balance, endurance, strength, flexibility and speed.<sup>5</sup>

The teachers realize that every child has all of the intelligences, but they have different levels. Teaching overall intelligences will ensure them to be superior; for example, in the musical intelligence will give them the opportunity to learn using that intelligence.<sup>6</sup>

The concept of multiple intelligences is a critique to psychometric which is commonly used to measure human intelligence based solely on the strength of the human left brains. During the measurement of intelligence is only on the quantitative aspects (logical) and verbal. Humans who have low scores based on these tests are considered to have a low intelligence level or called low IQ

5 Riyadi Mubdi Zhaahir. *Multiple Inteligences*. Accesed on 25 November 2013. <http://www.wikimu.com/news/displaynews.aspx?id=2108>.

6 Johnson, Elaine.B. *Contextual Teaching and Learning*. (Bandung: Mizan, 2007). pg. 67.

(Intelligence Quotient). Measurement of intelligence with an IQ in the development is considered unrepresentative, because there are a lot of facts that man with a low IQ is more successful in life than a man who have high IQ level. People with a mediocre IQ is found to have great competence in specific areas, such as painting professional, sport professional, singing professional, and others. The strengths which drive the multiple intelligences tests are the tests which are usually done inconsistently on well-established major scientific theories. Multiple intelligences is not a domain or a discipline. The concept of multiple intelligences is a new type of construct, but the multiple intelligences is not similar to the style or learning style, cognitive style, or style of work.

Multiple intelligences as a new concept impact on the design and curriculum of the school. The theory of multiple intelligences suggests that there are some human intelligence which are relatively independent and can be combined in a multiplicity way in order to suit each individual and culture. The independence of each type of intelligence can be shown in the case those who cannot master mathematics, but they can produce or understand the beauty of a painting or a song composition quickly. Another case, a person who cannot have verbal and spatial ability, but he/she is very smart in motion or kinesthetic. In human beings there may be one, two, three or more types of intelligences that stand out. This type of intelligence may further relate to learning style and life style.

### C. OPTIMIZATION OF MULTIPLE INTELLIGENCES THROUGH SCIENCE LEARNING

Related to the learning process, Winkel opines that learning is a mental or psychic activity, which takes place in the environmental and active interactions that result a number of changes in the understanding of knowledge, skills and attitude values, and the change is relatively constant and impressive. Correspondingly, the local design is needed to maintain and direct the students to the stage that does not stagnate on the knowledge about where they live so that they better understand and know the available resources around them that have the potential to be empowered.<sup>7</sup>

In the optimization process of multiple intelligences there are some things that should be known in advance by the teachers. One of them is they are required to have a perspective that no dumb students. The statement shows that there is no fool students, however why there are many students have less academic and character values or lower than expected.

According to Munif Chatib, the theory of multiple intelligences offers fairly fundamental changes in the assessment as the output of a learning process. This theory suggests a system which does not rely on tests that are based on the formal score, but the tests are more based on the authentic assessment that refers to specific criteria by using the test that have a specific reference point and *ipsative* (a test that compares the student achievement today with the previous performance). Based on this, the students' potential development will be attached and make the level of consciousness and their potential is more immune to any changes that occur.<sup>8</sup>

The problem arises because the teaching way of teachers is still far from expectations. They are still using monotonous conventional method in teaching –learning process, and it is too easy to be guessed by the students who are mostly bored with such methods. Therefore, in order to optimize the process of multiple intelligences goes well, of course, the teachers should also strive to provide the best solution through a new breakthrough innovative and creative teaching methods.

7 Winkel, W.S. *Psikologi Pengajaran*. (Yogyakarta: Media Abadin, 1999). pg. 59

8 Munif Chatib. *Sekolahnya Manusia* (Bandung: Kaifa, 2011). pg. 155

Science learning is one of the subjects that can be used as an example in the optimization of multiple intelligences. For instance, in a physics class, the material is about levers. There is a super hyper - active student which is very difficult to set up. Then the teacher as a parent and teacher at the school of course is obliged to seek a solution to the problem by finding out what he/she likes and what can encourage his/her to something positive in the classroom. If the student has a high kinesthetic intelligence thus the usual methods cannot accommodate the intelligence, so give his/her a breakthrough method, for example, is to give an active role to the student as an object of lever material or tool holder so that he/she would have a sense of responsible and able to follow the lesson like the other students.

Based on the cases above can be known that the optimization process of multiple intelligences consists of several factors such as the internal motivation of teachers, the appropriate teaching methods, the equal treatment of all students, and of course the positive thoughts that no students are stupid. Here is the optimization of multiple intelligences through science learning for students of SD/MI:<sup>9</sup>

1. Science learning process that develops verbal linguistic intelligence

The learning process which develops verbal linguistic intelligence can stimulate the development of multiple intelligences in each subject including science, or *IPA*. Some ways to do in learning to develop verbal linguistic intelligence in science learning is to listening to the material that will be covered from the cassette or from information that is directly delivered by teachers, classroom discussion, making an observation reports, conducting interviews, finding the materials to complete the task, writing scientific papers and so on.

2. Science Learning which develops mathematical-logic intelligence

In science learning, the noteworthy things in teaching is the application of basic science concepts appropriately in making decisions every day and help the students recognize the relationship between science and technology in society. The application of mathematical-logic intelligence in science learning can be in several ways, namely:

a. The scientific method

The scientific method is a way to find scientific products through step-by-step logically and mathematically. The general process of empirical scientific method is: finding a problem, formulating a hypothesis or provisional estimates, testing the hypotheses by performing experiments, drawing conclusions, and testing conclusions.

b. Thinking scientifically based on curriculum

c. Deductive logic

The deductive logic is a way of thinking by outlining the general concept to a specific concept. For example:

i. Syllogism is an argument that is composed from the rationale and the conclusion.

ii. Venn diagram uses complementary circle to compare a bunch of information.

d. Inductive logic

Inductive logic is a way of thinking of someone by considering special facts

<sup>9</sup> Sri Wahyu Widyarningsih. *Multiple Intelegensi Dalam Pembelajaran* <http://sriwahyuwidyarningsih.blogspot.com/2012/01/multiple-intelegensi-dalam-pembelajaran.html> accessed on 1 December 2013

general conclusion analogically.

e. Improving learning and thinking

To improve the students' thinking, teachers use instructional media in learning.

f. The process of thinking mathematically

Mathematics is the subjects which have specifically abstract thinking and hard, so the children are not interested in. For the teacher can construct the teaching-learning with pattern images, graphics, and codes to cause them curious.

g. Working with numbers

Students who like the thoroughness will discover the pleasure of working with numbers such as measurements, opportunities, and problems in the form of a story.

h. Technology that increases the mathematical-logical intelligence

Students can learn effectively by using interested software.

3. The learning process which develops a music intelligence

Music has a close connection with someone's emotional, namely:

- a. Providing a friendly atmosphere when the student enters the room.
- b. Offering the ease effects after doing physical activity.
- c. Smoothing the transition between classes.
- d. Generating the energy back which has been falling down.
- e. Reducing the stress.
- f. Creating a positive atmosphere in the school.

The methods that can be done to develop musical intelligence at school for instance: a) install a soft and universal music background in the school, b) through the learning of each field of study in the schools for instance creating the theme songs of the material which is being taught, c) learning processes that develop kinesthetic intelligence.

There are various tactile-kinesthetic activities that aims to enhance the student learning in the age of SD/MI (elementary school), namely:

- a. Physical environment: classroom area, in classroom planning, the teacher makes the room where can make sense of the students became excited.
- b. Drama: theater, role play, creative play, simulation (a state that mimics) the real situation.
- c. Creative motion: understanding the physical knowledge, introducing creative movement activities, applying the basic skills of creative movement, creating the content that is more focused on the movement activities.
- d. Dances: dance sections, a series of learning through dance.
- e. Playing instruments: task cards, task card puzzle, drawing the additional tools, making signs for classrooms.
- f. Classroom game: Beast hunted (scavengers) large floor games, the games which respond totally physical motion, repeating the game in general.
- g. Physical Education: the characteristics of a physical teacher, educational adventure, spider web, a pyramid of ten people, adventures of ten people.



- h. Training opportunities
  - i. A trip to the wild
4. The learning process which develops visual-spatial intelligence

This learning process is a process that develops the perceptual abilities. Imagination and esthetical in the book Mc.Kim *Experience in Visual Thinking* identified three broad components of visual depiction; they are the external picture that we perceive, the internal picture that we dream or we imagine, the picture that we create through irregular images.
  5. The learning process which develops interpersonal intelligence

To build a positive interpersonal environment, an effective group is needed. The criteria are: a) warm and open classroom environment, b) teachers and students together make rules and sanctions based on humanity, c) the interdependence of the learning process, means an active role and contribution from all students, d) the learning is to aim learning from the curriculum, from friends, and from experiences. e) Duties and responsibilities are divided equally, so that each member of the class feels important in the classroom.
  5. The learning process which develops intrapersonal intelligence

The development of intrapersonal intelligence can be done through several things including: a) establishing an environment to develop self-knowledge, b) supporting self esteem, c) composing and achieving the goals, d) thinking skills, e) emotional skills education in the classroom, f) writing journal, g) knowing themselves through the others, h) reflecting astonishment and life purpose, i) self-directed learning, j) technology that enhances the interpersonal intelligence.
  6. The learning process that develops naturalism intelligence

This learning process is a process that develops the naturalism students ability: a) organizing the school environment to be green and lush, b) when studying the materials which are related to the classification of plants, ecosystems, environmental pollution, invites the students directly to the nature, c) the school provides the teaching tools such as the torso and the chart of the human body organs, d) applying the lessons of agriculture or fisheries that are adjusted to the local conditions respectively, e) the school develops the learning processes that can arise the students' concern for the environment.
  7. The learning process which develops the emotional intelligence

The emotional learning can improve cognitive learning system, whereby an emotional brain involved in logical reasoning learning as strong as the brain thinks. The things that can be implemented by teachers in developing emotional intelligence are as followed: a) the teacher should begin the lesson with a gentle demeanor, by gradually increasing the enthusiasm, b) creating an atmosphere as desired by students, c) teachers can move students slowly to the social circumstances which has different emotional, d) when teaching. the teacher should develop a sense of humor to reduce the tension that may arise due to lack harmony between teachers and students.
  8. The learning process which develops the spiritual intelligence

The learning process should expand the scope of the Quranic verses and the meanings contained in it, so it will be deeply rooted in the soul and mind of students by drawing lessons from the material learning which is presented to students. Material implications of science learning in developing spiritual intelligence are very much, as an example about the solar system. In these materials the students are required to master the sun

as a star, the sun as the center of the solar system, the earth's rotation and revolution, 9 kinds of planetary movement and so on. At the end of the lesson the teacher invites students to observe the regularity of motion in the solar system and connect it to the letter *Yasin* verse 37 to verse 40 which means:

*“And as a sign of the greatness of Allah for them is the night, we remove the day from the night, then while they were in the dark. And the sun runs its place circulation. Such is the command of Allah the Almighty, the All-Knowing. And We decreed place of the moon, so (after he came to the last passage) back to the old form tanndan. It is not possible for the sun to overtake the moon and the night could not outstrip the day. Each orbits on geostationary orbit“.*<sup>10</sup>

## D. CONCLUSION

If the optimization process of multiple intelligences through science learning want to run optimally, of course the teachers as actors behind the transfer of knowledge have to start with a positive stigma against the ability of the students. The multiple intelligences are a diverse distinction which is owned by the students considering to their basic abilities differently.

In this case the students have different abilities as stated by Howard Gardner that there are seven types of intelligences include Linguistic intelligence, Logical-Mathematical, Visual-Spatial, Intrapersonal, Interpersonal, Musical, and Kinesthetic Intelligence. From the seven intelligences that exist in their students need different approaches so that the teachers are required to have a creative and innovative teaching in order to do not make the students become bored.

The supporting factors of optimization multiple intelligences through science learning is started from the teachers who are required to have a sense of caring and sharing the equal treatment for all students, because the teacher basically is an organism of educational management which has the function as the students' entrance academic. Hence, the teachers are also required to have the perception that no students are stupid and there is no teacher who cannot teach. Starting from such a perception, it will create a sense of high confidence for teachers on how to teach their students.

Integration between science and multiple intelligences can be started by inserting materials of science to a diverse student learning ability, for instance through a role play-it is a kinesthetic intelligence which is combined with science material to be studied. The methods used are intended to foster the student interests.

## E. SUGGESTION

Related to the development of students skill, the teachers are required to have the appropriate soft skills to the development of education which is growing at present, besides the teachers refers to a rule of the education system (curriculum). Preliminary understanding to a curriculum culture can be a solution when it is done optimally. In curriculum 2013, there is a solution that the genetic is almost similar to Multiple Intelligences methods. Here, the role of the teacher as an actor behind the successful students is necessary to be tested due to every student has different capabilities in capturing a subject matter, so teachers need to make new methods in action as a teaching materials to raise students' motivation in learning in order to do not make them feel bored with monotonous method.

The application of multiple intelligences which is applied to the materials of science can be

<sup>10</sup> Surat Yassin. Ayat 37 – 40. Kementerian Agama RI.

highly variable and various methods, considering to the science as a discipline which has many branches such as: Physics, Biology, Chemistry, and so forth. Thus, the focus of the science teachers as well as the science learners should have an extra ordinary motivation and ability in teaching science to the students.

## REFERENCES

- Gardner, Howard. 2003. *Multiple intelligences*. Batam Centre :Interaksara
- Johnson, Elaine.B. 2007. *Contextual Teaching and Learning*. Bandung: Mizan
- Julia Jasmine 2007. *Mengajar dengan Metode Multiple intelligences Implementasi Multiple intelligences*. Bandung: Penerbit Nuansa
- Munif Chatib. 2011. *Sekolahnya Manusia*. Bandung: Penerbit Kaifa
- Riyadi Mubdi Zhaahir. *Multiple Inteligences*. Accessed on 25 November 2013, <http://www.wikimu.com/news/displaynews.aspx?id=2108>
- Sri Wahyu Widyaningsih. *Multiple Intelegensi Dalam Pembelajaran*, accessed on 1 December 2013, <http://sriwahyuwidyaningsih.blogspot.com/2012/01/multiple-intelegensi-dalam-pembelajaran.html>
- Winkel, W.S. 1999. *Psikologi Pengajaran*. Yogyakarta: Media Abadin





STATE ISLAMIC UNIVERSITY  
SUNAN KALIJAGA  
YOGYAKARTA



**THE REFORM OF LEARNING SCIENCE  
THROUGH MULTIPLE INTELEAGENT PARADIGM TO AGAINST  
CURRICULUM IMPLEMENTATION 2013 IN SD/MI  
(Considered From The Dynamics Between Teacher And Student)**

**Written by:**

***Dian Noviar***

**Email: diannoviar84@yahoo.co.id**

=====

**ABSTRACT**

Science education quality improvement efforts in Indonesia is not enough by changed the curriculum. The curriculum change has to be followed paradigm shift in learning science, from teaching paradigm to the learning paradigm. The learning paradigm can be realized by either integrating the knowledge, senses, environment, curriculum, and the sense of mind (intelligence variety) owned by each student. Comprehensively it can maximize the diverse capabilities of multiple Intelligence owned science students in the learning process. By using the paradigm of learning -based multiple Intelligence and scientific approach to the curriculum in 2013, students are guided to reconstruct the knowledge that needs to be capable by observes the students' characteristics of various types of intelligences. Learning of science should be meaningful for them. It means the students, in learning science, should be able to see that science is important for them to face life in the future. The students need to be exposed to the problems which is realistic and contextual in purpose it can not be imagined by students and starting from what have been experienced and known by students. Therefore, in line with the pillars of the curriculum in 2013 that is productive, creative, innovative, and affective then the teacher must understand the characteristics of students' diverse capabilities so that science can be understood well by students not only as the level of knowledge.

**Key words :** *Reform, Learning science, Paradigm, Learning, Multiple Intelligence.*

**A. Introduction**

School is a learning place for students to prepare themselves to face the future. The future is full of challenges and different from their future which is learned in previously years in school. The rapid development of technology and science making a change the condition from year to year. About 10-15 years ago, globalization is still a discourse, but now has become a reality. The need for mastery of science increased. Relational understanding in learning science more important and meaningful than instrumental understanding.

Because of rapidly changing circumstances, the school should be able to adjust toward the change so that the graduates are not left behind and get into trouble later in creating jobs for

themselves and for others. As a consequence, curriculum in school have to adjust to the demands of the times, especially the advancement of science, technology and information. Then it is natural if the curriculum change regularly.

However, the curriculum changes are not enough. Change the curriculum does not change the way of thinking itself. Curriculum changes are not followed in practice by a change in the learning and assessment process which is used. Since from the beginning, the teaching paradigm is used in learning process<sup>1</sup>. Teachers actively transferring knowledge to the students' mind and students passively receive it. Understanding which is achieved by the students is only instrumental understanding. Students complete a question of physics and chemistry merely using the formula without understanding why using these formulas or why students use certain strategies. Students use these formulas because it is what the teacher taught. Often students do not dare to use their own way, afraid of being incompatible with what is taught by the teacher. Students' way of thinking is simply an imitation of the teacher's way of thinking. Students are no longer as themselves, but they become a small robot in their way of thinking.

Similarly in the process of learning, the way how to collect student's learning result data do not change. The assessment which is used always a kind of objective tests with its variations. Even, learning process ultimately affected by the assessment which is used. Learning is for testing. The important thing is to pass the test and get a high score. Finally, schools are racing to pursue high score of the UN, so that all efforts of learning is directed to make students able to answer the questions of National Exam or questions for college entrance exam. Though National Exam is not a measure whether someone understands toward what they have been learned. Since there is no change in the leaning paradigm of science and its evaluation then the quality of the graduates of our schools become low. Passive learning habits from elementary through high school bring into college. Is it not strange, when students were asked about the concepts they have learned in school they did not want to answer (probably because they could not answer, possibly due to fear of being wrong or because they are not sure of the answer).

### **1. The need for a change paradigm in learning science universally**

To face the challenges of the present time, curriculum which is going on needs to be changed. The purpose of learning is not just to know, but the student can apply and able to do what they known. If during the learning process is more geared to make students knowing something (facts, concepts, procedures) by transferring knowledge into the student's mind, then it is not enough anymore.

Science deals with the way how to find out about nature systematically, so that science is not only for mastery the knowledge collection in the form of facts, concepts, or principles, but also a process of discovery. Science education is expected to be a vehicle for students to learn about themselves and the environment, as well as prospects for further development in applying them in everyday life. The learning process emphasizes to provide direct experience to develop competence in order to explore and understand the nature scientifically. Science education is directed to do and inquiry so it can help learners to gain a deeper understanding of the nature around. Science is scientific knowledge, it is knowledge that has undergone the test of truth through the scientific method, with the characteristics: objective, methodical, systematic, universal, and tentative<sup>2</sup>.

Basically science is watch over in terms of products, processes and the development of attitude.

- 
- 1 Marpaung. 1998. Dan Mengajar ke Belajar Matematika. Makalah yang disajikan pada Seminar Rumpun MIPA, USD, Paingan, Yogyakarta. 10 Juni 1998
  - 2 Depdiknas. 2007. Panduan pengembangan pembelajaran IPA terpadu SMP atau MTS. Jakarta. www. puskur. Net

These three dimensions are interrelated. This means that the learning process of science should contain the three dimensional science. Similarly, Carin and Sund defines science as a systematic knowledge and structured regularly, generally accepted (universal), and in the term of data set of observation and experimental result<sup>3</sup>. According to Collette and Chiappetta, essentially science composed of three dimensions, they are:

1. Science as a way of thinking such as human is enormous curiosity, imagination, and desire to understand phenomena, and then they possess attitudes, beliefs, and values that motivate them to answer questions and solve problems; (b) Science as a way of investigating such as human is desire to understand nature and to discover its laws must study objects and events with manner experimentation, observation, hypotheses, tested and validated; (c) Science as a body of knowledge from the scientific disciplines represents the creative products of human invention such as the facts, concepts, principles, laws, theories, and models specific for the content science<sup>4</sup>.

According to Carin and Sund, science has three essential elements. They are:

(a) *Processes or methods as ways of investigating problems, observing such as making hypotheses, designing experiments, evaluating data and measuring;* (b) *Products such as the facts, principles, laws, theories;* (c) *Human attitudes as beliefs, values, opinions*<sup>5</sup>.

Referring to the notion of science, then science is essentially composed of four dimensions:

1. Attitudes: curiosity toward the object, nature phenomenon, living creature, and causal relation which is rise new problem that can be solved through the proper procedures.
2. Process: The procedure of solving problems through scientific method; scientific method are arranging hypothesis, design of experiments or trials, evaluation, measurement, and drawing the conclusion.
3. Product: it contains facts, principle, theory, and law.
4. Application: the application of scientific method and concept of science in everyday life.

Students have to understand what they are learned and able to use that knowledge to solve problems, draw conclusions logically, well communicate, and able to see the connection between a concept with other concepts. That competence which is expected from the students who is studying science. Curriculum based on competency intended in order that students who learn science try to seek that competence. Despite, even it is a good intentions, if not accompanied by a willingness to change the way of thinking, then the purpose will not be achieved as we have experienced so far. There is needs a new reform in learning science, at least it includes three aspect:

1. The change of learning paradigm from teaching paradigm to learning paradigm.
2. The change of evaluation paradigm, from evaluation that relies on standardized test (objective test) as type of assessment to the evaluation which based on variety of assessment.
3. The change of paradigm which emphasizes ratio to the paradigm which is blend to the various type of intelligence that includes rational intelligence, emotional, and spiritual, or according to Gardner (in Bellanca, et.al.) are classified into:

1. Intelligence logical/mathematical

3 Sulistyorini. 2007. Pembelajaran IPA sekolah dasar. Semarang: Universitas Negeri Semarang.

4 Collette dan Chiappetta. 1994. Collette, A. T., & Chiappetta, E. L. (1994). Science instruction in the middle and secondary schools. New York: Macmillan Publishing Company.

5 Carin dan Sund. 1989. Teaching science through discovery. London: Merrill Publishing Company., A Bell., & Howell Information Company.

2. Intelligence verbal/linguistic
3. Intelligence musical/rhythmic
4. Intelligence motor/kinesthetic
5. Intelligence visual/spatial
6. Interpersonal intelligence
7. Intrapersonal intelligence
8. Naturalistic intelligence<sup>6</sup>.

For example, learning science in elementary school, it is developed the concept of SANI (polite, open and communicative) as a modification of RANI (friendly, open and communicative). Friendly is not equivalent with courtesy. Friendly has connotation on the way how to speak while courtesy has connotations in term deeds. People who act friendly is not consider to have courtesy, because a lot of people who speak smoothly, it sound polite but the actions are not same as what is said. In contrary, courtesy describe the actions of people who are generally friendly. If the child wants to be a well-mannered, they should be treated in a dignified manner not only required them in order to be well-mannered. In this case, adults who need to understand the characteristic of the children, it is not the children who should be demanded to behave and understand adults. In other words, an adult should be able to manage their emotions when they are dealing with a child, according to their judgment, that deviate from the general rule and adults can guide children to be open minded (think rationally) in communicative way so it can be accepted by child.

#### **4. The problems that might appear on Teachers and Students**

It is proper that in starting something new will show-up problems. The problem is whether we want to solve the problem. Willpower is not the same as desire. But the will can not arise due to several constraints such as:

1. Students which is only being passive toward the changes around them especially development of the science that is increase rapidly, it is caused during their learning of science education they only learn theory so that students are not able to respond the problems which is arise especially to look for solution of these problems.
2. Students are still dependent to the teacher, so they are not independent in constructing knowledge. Their knowledge only stock-still to the information which is provided by the teacher.
3. Teachers feel they have received additional burden without additional incentive. It can be understood because teachers have been long-serving in education without adequate remuneration.
4. The most difficult is to change habits, moreover if the habit is considered enough or good.
5. Reticence. There is desire to change but feel that have a trouble to do it and do not want to share to others, especially to the boss.
6. Stay still attitude until there is instruction. This thought pattern become a culture, so that people no longer creative. Moreover, if the desire to do a reform has no appreciated, it is inhibited with various reason and rules.
7. The lack commitment from the top to improve the quality of education and respect the teachers truly.
8. Unfamiliar synergy. Interaction, collaboration, and reflection are a way to overcome the problem.

---

<sup>6</sup> Bellanca, et.al., 1997. Multiple Assesment for Multiple Intelegences. Arlington Heights: IRI Skylight.



## 5. Evaluation between teacher and student

Knowledge called science can not be transferred from someone who knows to people who are learning. In learning science, teachers should not move knowledge from their mind to students' mind through lectures (taught) but help students to construct knowledge in their mind. Teacher need to create condition that enable students to do construction process, for example: students' learning time is no longer controlled by the teacher but by the students themselves. The subject matter is no longer atomistic but holistic. Teachers help student in order that something potential become actual. Another way is through interaction and discussion with friends which is led by teacher. Someone interested in learning something if they could see something which is learned can be used to fulfill their needs, in other words useful to them. Therefore, learning science has to be meaningful, it means students see that science is important for their future because it can help them to solve problems they faced. In this way students begin learning from problem that are realistic, means it can be imagined by students, or it has connection with the real world. This kind of learning approach called as contextual or realistic approach. By this kind of learning opportunity for the students to gain relational understanding become larger. Paradigm as basis of learning is called *learning paradigm*.

This change is not easy to do, because it is difficult to change habits that have been carried out for years. Moreover, if what it has been doing become a belief. Although it is difficult, that change is needed in order that we can catch up with the other nation. The reform by change paradigm of learning science need to held now together with curriculum change that will come. Because, if not then the intention of the curriculum will not be achieved.

## 6. The science essence in teacher's and student's perspective

The essence of science needs a critical study. This will certainly bring a consequence to other people perspective in responding and comprehending the essence of science. The consequence of people perspective (teachers) to what is a science in a narrow scope will bring a color to a study applied when a teacher performs an activity with children in a science study. Actually a more completed understanding in describing science, doesn't certainly perceive a science as an imaginary knowledge bank. Before the curriculum based on competence is applied, teachers consider sciences only in mind and the characteristic of sciences theoretic so the students only imagine every knowledge about science in their mind without consistency or application after they study sciences. Finally teachers and students perceive cynically to sciences whereas the sciences is very important to the future of students. Therefore, it is necessary to start it by the teacher first to understand science definition in wider perspective. Several definition of science are in the following:

1. Science as a bank of knowledge
2. Science as an exploration process
3. Science as a bank of value
4. Science as a way to know the world
5. Science as a social institution
6. Science as a result of human construction
7. Science as a daily activity

The principle of lecturing process is lecturing, whereas lecturing is a change process of individual behavior that is relatively persistent as a result of experience. Therefore, study is an exertion of conducive environment in order to the study process can grow and develop. Because

the study characteristic is engineer, the process of preparation involves a purpose. In sociological perspective, study process is a process of student preparation in order to be able to have their life in a society. School is social system that is a miniature of wide society. Therefore, study process cannot be separated from a socialization process and what are studied in the school should be reflections of real condition around the students that can be exploited or implemented in a society<sup>7</sup>.

Study is an arranged combination involving human unres, material unres, facility unres, equipment unres, and procedure unres that are influencing each goal of study<sup>8</sup>. In a study, there are four steps: a) a preparation as a surface of interest, b) delivery in the first meeting with new knowledge and new skill, c) a training of new knowledge and skill integration, d) a result performance as an application of new knowledge and skill to a real condition. Science is a *body of knowledge* that has been examined, that can be expressed in the form of general principle<sup>9</sup>. David states that:

Science is something that is discovered, some experimenting about the world around us, experimenting about things that will help us, facts about nature, what a scientist works on, facts about the earth and atmosphere, friction and tests about nature, trying to solve problems, the world's history, nature of the world, discovering new things, about the facts of the world, making things easier around home, chemicals and research<sup>10</sup>.

It means science is a process of finding something by some experiments about world is round, natural fact, earth, and atmosphere, trying to resolve natural problem, finding something new about world fact, making something easier for environment and research.

Science is defined as a knowledge that is gotten through data collection by using an experiment, observation, and conclusion to produce an explanation about a believable indication. There are three skills in sciences that are: a) a skill to know what is observed, b) a skill to predict what doesn't happen yet, and a skill to examine the follow-up of experiment result, c) scientific development. An activity of science study includes a skill development in giving a question, finding an answer, understanding an answer, completing an answer about "what", "why", and "how" about natural tendency or natural characteristic through systematic ways that will be applied in environment and technology. Those activities are known as scientific activity based on scientific method<sup>11</sup>.

In studying science, students are directed to prove their prediction result by using theory through experiment by using scientific method. Science education in schools are expected to be able to be a tool for students to study themselves and their environment around, and also a prospect of following development in applying them in daily life, based on scientific method. Science study focused on direct experience to develop competences in order for the students to be able to understand environment around through the process of "looking for knowledge" and "acting". This will help students to get a deeper understanding. Therefore, science study in schools should:

- a. give experiences to students in order to be competent to do measuring many physical scales.
- b. encourage students about the importance of empirical observation in examining a scientific statement (hypothesis). This hypothesis is from an observation toward daily occurrences needing scientific improvement.

7 Depdiknas. 2003. Standar penilaian buku pelajaran sains. Jakarta.

8 Oemar. 1995. Kurikulum dan pembelajaran. Jakarta: Bumi Aksara.

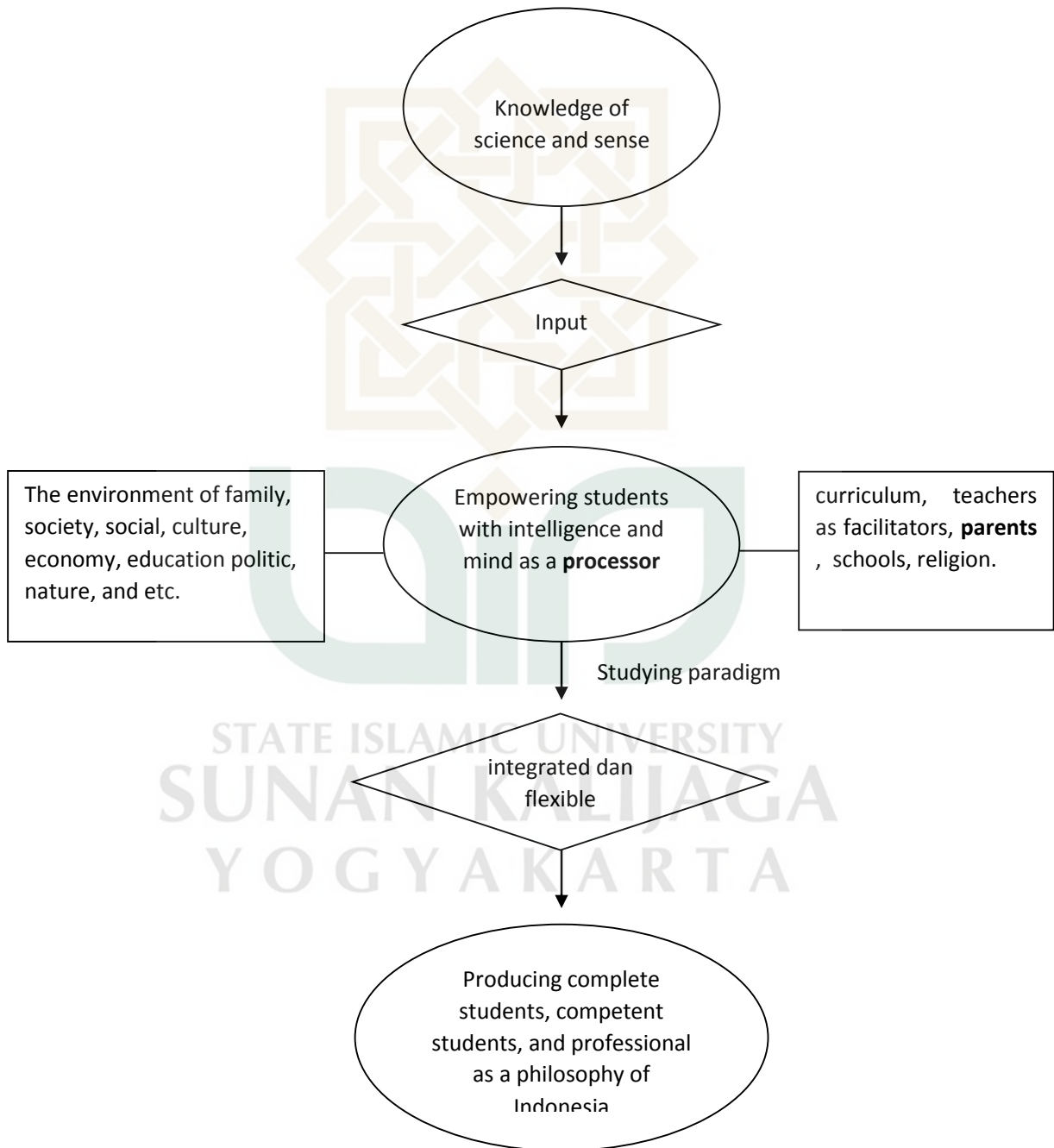
9 Meier. 2002. Panduan kreatif dan efektif merancang program pendidikan dan pelatihan. (Terjemahan Rahmani Astuti). New York: McGraw-Hill. (Buku asli diterbitkan tahun 2000).

10 David. 1974. Teaching science in elementary and middle schools. America: McKay Company, Inc.

11 Depdiknas. 2007. Panduan pengembangan pembelajaran IPA terpadu SMP atau MTS. Jakarta. www. puskur. Net

- c. train to think quantitatively that supports mathematic studying process, that is as an application of mathematics to real problems relating to natural phenomena.
- d. introduce technology world through creative activity in an activity of arranging and producing simple tools or an explanation about many tendencies and the potency of science in answering many problems.

**8. The solution of science education reformation toward students and teachers**



**Scheme 1. Positions of students and teachers in a school**

Actually a reformation of education begins from out intention and goal to complete an education cohesively. Many factors extremely infuencing education developments now when the

case becomes a focus in the development of education. Actually students have a potential coming from themselves or from environment around. Actually, all extremely influence student empowering. By the change of curriculum, education in schools doesn't precisely create a good education system but confusion does. If the change of curriculum is followed by professionalism and competency had, teachers are not doubted.

teacher management → The quality of teachers increase → the quality of teacher works increase → the quality of students increase

a way to think relevantly with a purpose to education importance without private or institutional unsuccesses in order to those students become the main focus needing to be noticed. Empowering students to study from their experience "study how to study" to problems occurred with the result that the way of intelligent and mind can function as usual. In empowering a teacher position is only as a facilitator in study process in schools, so demanding students to construct their knowledge to be more impressive but still follow the procedures of science study delivered by teachers. Science study is an active process and extremely influenced by what will be studied by students. From this perspective the result of lecturing doesn't depend on what teachers explain, but is influenced by interaction result among some information gotten by them from the previous environment around the students with the response of students to information given by teachers. Science is received by students through the five senses that then is interpreted in mind and intelligence of students, teachers as facilitators by harmonizing aspects around like society, parents, social culture, religion and other environment to be a complete union without discriminating one of those aspects because their involvement extremely determines the success of student study and teacher's role completely. Ignoring one of those aspects will make a continual fault, in other words meeting point of attainment will not be realized. Because in participation to create students that completely competent, professional, like our country philosophy and also teachers that are really competent and professional in their field it is necessary to notice a reality show and teaching paradigm becomes studying paradigm that the characteristic is integrated (unite) and flexible (graciousness).

## 9. Closing

Fixing the quality of science education in Indonesia not only needs curriculum changes but also more. The changes of curriculum have to be followed by the change of paradigm in science study, that is the paradigm of teaching to the paradigm of studying. By using the paradigm of studying, students are guided to reconstruct knowledge needing to be mastered. The science education have to be meaningful for them. It means that students in science study have to be able to the importance of science for them to face their future. Therefore, students need to be faced to real and contextual problems or in other words, the problem can be imagined by students and begun from what they have and know.

## REFERENCES

- Bellanca, et.al., 1997. *Multiple Assessment for Multiple Intelligences*. Arlington Heights: IRI Skylight.
- Carin dan Sund. 1989. *Teaching science through discovery*. London: Merrill Publishing Company., A Bell., & Howell Information Company.
- Collette dan Chiappetta. 1994. Collette, A. T., & Chiappetta, E. L. (1994). *Science instruction in the middle and secondary schools*. New York: Macmillan Publishing Company.



David. 1974. *Teaching science in elementary and middle schools*. America: McKay Company, Inc.

Depdiknas. 2003. *Standar penilaian buku pelajaran sains*. Jakarta.

Depdiknas. 2007. *Panduan pengembangan pembelajaran IPA terpadu SMP atau MTS*. Jakarta. *www.puskur.Net*

Marpaung. 1998. Dan Mengajar ke Belajar Matematika. Makalah yang disajikan pada Seminar Rumpun MIPA, USD, Paingan, Yogyakarta. 10 Juni 1998.

Meier. 2002. *Panduan kreatif dan efektif merancang program pendidikan dan pelatihan*. (Terjemahan Rahmani Astuti). New York: McGraw-Hill. (Buku asli diterbitkan tahun 2000).

Oemar. 1995. *Kurikulum dan pembelajaran*. Jakarta: Bumi Aksara.

Sri Sulistyorini. 2007. *Pembelajaran IPA sekolah dasar*. Semarang: Universitas Negeri Semarang.



STATE ISLAMIC UNIVERSITY  
SUNAN KALIJAGA  
YOGYAKARTA

## HOLISTIC-INTEGRALISTIC TEACHER

### “The Necessity And The Needs For Multiple Intelligences-Based Learning Process In The Islamic Elementary School”

Written by:

**Andi Prastowo**

Lecturer in Education of Islamic Elementary School Teacher

Faculty of Islamic Education and Teachership  
State Islamic University Sunan Kalijaga Yogyakarta

E-mail: anditarbiyah@gmail.com

---

#### ABSTRACT

Howard Gardner's notion of multiple intelligences has brought major changes to the way people in the world view the key to success in life. The view of multiple intelligences offers a richer description of the capabilities and the potential success of a child rather than raw IQ. This view also has a major impact on the rearrangements purpose, process and output for the provision of education, including in Islamic educational institutions in the elementary school level. As a result, many efforts, programs, and activities are compiled by the Islamic elementary school managers to realize the implementation of multiple intelligences-based education. Unfortunately, such a teacher profile which is suitable for the implementation of multiple intelligences-based education has not been studied in depth. Therefore, this research seeks to explore the concept of teacher in Islamic perspective which is relevant to multiple intelligences-based education. Through literary study with post-structuralism hermeneutic approach, this research seeks to offer an alternative idea about the concept of teacher for learning multiple intelligences-based that is unearthed from the meaning of creativity to the development of classical Islamic concept of the teacher, i.e. mu'allim, murabbiy, mursyid, and mu'addib. The result of this research concludes that an expected professional teacher for Islamic education in Islamic elementary school which is relevant to the Islamic school with multiple intelligence orientation is holistic-integralistic teacher. The teacher has four competencies: intellectual and research capacity, spiritual capacity, moral and ethical capacity, and emotional capacity

**Keywords:** *multiple intelligences, professional teacher, Islamic Elementary School*

#### A. INTRODUCTION

The emergence of the theory of multiple intelligences has wide implications on the beliefs and perspectives of people in the world on how to achieve success in life. From this concept, there is a view that to achieve success, there are many ways that can be taken and a lot of different capabilities that can help to achieve that success. IQ tests are not the only determinant of the success in life. In a book entitled *Frames of Mind*, published in 1983, Howard Gardner, the originator of the theory of multiple intelligences, reveals that not only one kind of monolithic intelligence (intelligence quotient) that are important for success in life, but there is a wide spectrum of intelligence (Goleman, 1997: 50-51). Intelligence comes in the form of eight skills: verbal, mathematical, spatial, body-kinesthetic, musical, intrapersonal, interpersonal, and naturalist skill (Santrock, 2007:140-141).

The theory of multiple intelligences has stimulated people to think broadly about what

constitutes a person's intelligence and competence. This theory motivates teachers to develop a program to teach children in different domains. Therefore, as the impact, there will emerge technologies to facilitate intelligence area of the learners, such as the computer development for learning, the use of *touchscreen* display, the development of *Musical Instrument Digital Interface* (MIDI), the use of the *National Geographic Online*, and so on. In addition, it also develops a wide range of learning strategies for each of the eight skills above (Sanrock, 2007:146). Moreover, multiple intelligences-based curriculum has been prepared in thousands of schools. Armstrong points out that in the curriculum, students take a special field in various subjects involving the eighth intelligences for the real-world skills (e.g. course architecture, the art of planting, the composition of music, yoga, rock collection, or publication) (Armstrong, 2011:178-179).

However, there are some things that are rarely touched in the discussion of the implementation of multiple intelligences in the educational practices in elementary schools and Islamic elementary schools. One of them is about the appropriate profile of Islamic elementary school teacher to emerge the multiple intelligences-based class. It is important to study more depth because the role and the function are very central in the educational process. Saiful Anam discloses that a teacher is the generator that drives teacher's teaching activities. Teacher has a very strategic role in the achievement of educational goals, and becomes one of the determinant factors that determine the level of success of a child in the process of transformation of science and technology, as well as ethical and moral internalization (Anam, 2005:337). The teacher is the mission of the waves in the field of education as well as an important factor in creating a qualified and efficient education system (Harsono and Susilo, 2010:24).

In addition, teacher is the central figure in the field of education, especially in the Teaching-Learning Process (PBM). Thus, this profession is a special job referred in Article 7 of Law No. 14 Year 2005 about Teacher and Lecturer. It is said that the profession of teacher and lecturer is a special field of work carried out on the basis of having academic qualifications and educational background in their respective sectors. Teacher, as a professional trainer is also required to have the qualification, competency and certification (Harsono and Susilo, 2010:24). Therefore, there is no doubt that the assessment of the teacher profile for multiple intelligences class is very urgent and necessary.

Based on some of the arguments, this research explores a number of classical Islamic concepts of the teacher and the relevance to the theory of multiple intelligences. Some of the problem statements are developed in this research includes: first, how is the teacher profile for multiple intelligences class? Second, how is the basic concept of professional teacher in the classical Islamic concept? Third, how is the relevance of the concept of professional teacher in the basic education of Islam with the multiple intelligences class? This research is expected to find the basic concept of professional profile of Islamic elementary school teacher that is consistent with the demand of the multiple intelligences class.

## **B. METHOD OF RESEARCH**

The method of this research applies the literary research (literature). The approach uses post-positivistic paradigm (qualitative). The analysis uses content analysis technique with post-structuralism hermeneutic approach. It means, this research is directed and conducted by developing the meaning of creativity from classical concepts such as *mu'allim*, *murabbiy*, *murshid*, and *mu'addib*. The analysis process, the text or something spoken is deconstructed from the conventional understanding to a new understanding (Muhadjir, 2011:317-318).



Data sources used in this research are books or articles related to the topics in this study. The data of this research come from the thought of the Islamic scholars about the various terms associated with teacher, such as *mu'allim*, *murabbiy*, *murshid*, and *mu'addib* which is contained in various writings both in books, articles, and journals. Besides that, it also learns about the Islamic education scholars thought on professional development of Islamic education teacher.

To perform this study, the procedure of the research, researcher collects the concept of teacher that includes *mu'allim*, *murabbiy*, *mursyid*, and *mu'addib* from a variety of relevant library materials. Start from this first step, it is followed by an intertextual analysis interpretively which is sought to bring *meaning of creativity* of the concept of Islamic education teacher who have been there at the top. After that, the researchers combines the concept of a professional teacher who emerges from the concept *mu'allim*, *murabbiy*, *mursyid*, and *mu'addib* to develop the professionalism of teacher in Islamic education in order to obtain a strong and firm foundation. Lastly, the writer makes abstraction and inference of the concept and its development in a professional teacher of Islamic education. Thus, it can be obtained operational definition of the concept and its development in a professional teacher of Islamic education that can be applied in the practical realm.

## C. FINDING AND DISCUSSION

### 1. Teacher's Profile for Multiple Intelligences Class

The emergence of the theory of multiple intelligences is a new chapter in the education field. This theory explicitly rejects that intellectual intelligence (IQ) is the only factor determining the success of a person's life. Howard Gardner, in his latest book *Multiple Intelligences: New Horizon*, states that intelligence is bio-psychological construction (Gardner, 2013:49). In his book *Frames of Mind* (1983), he states that it is not just one kind of monolithic intelligences (intelligence quotient) that is important for success in life, but there is a wide spectrum of intelligence (Goleman, 1997:50-51). Intelligence comes in the form of eight skills: verbal, mathematical, spatial, body-kinesthetic, musical, intrapersonal, interpersonal, and naturalist skill (Santrock, 2007:140-141).

Briefly, each of these skills is elaborated as below (Santrock, 2007:140):

- a. Verbal skills: the ability to think in words and to use language to express meaning (author, journalist, speaker).
- b. Math skill: the ability to solve mathematical operations (scientists, engineers, accountants).
- c. Spatial ability: the ability to think three-dimensional (architects, artists, sailors).
- d. Body-kinesthetic skill: the ability to manipulate objects and smart in physical things (surgeons, craftsmen, dancers, athletes).
- e. Musical skill: sensitive to the tone, melody, rhythm, and sound (composers, musicians, and sensitive listeners).
- f. Intrapersonal skill: the ability to understand themselves and organize their life effectively (theologians, psychologists).
- g. Interpersonal skills: the ability to understand and interact effectively with others (exemplary teachers, mental health professionals).
- h. Naturalist skill: the ability to observe patterns in the nature and understand natural systems and man-made systems (farmers, botanists, ecologists, soil experts).
- i. Existential intelligence: the intelligence to reflect on the most fundamental questions of existence (Gardner, 2013:35), or the ability to put oneself by paying attention to the achievements furthest in the cosmos and the related ability to put oneself by observing patterns in the existential self human and profound experiences (Armstrong, 2013:195).

Spectrum Project is an innovative business conducted by Gardner to test the eight intelligences. Spectrum Project begins with the basic idea that every student has a potential to develop strengths in one or two areas (Santrock, 2007:141). It gives context to see more clearly the strengths and weaknesses of children. As Santrock describes the description below:

What does the Spectrum Class look like? This class has a lot of materials that can stimulate a variety of intelligences. However, teacher does not try to stimulate intelligence directly by grouping similar activities that are labeled 'spatial', 'verbal', and so on. Teachers use a combination of materials related to the intelligence domain. For example, naturalist students explore and compare the biological specimen, which does not only sense the ability to train students but also a logical analytical capability. In the area of storytelling, the students create an interesting imaginative story and design the plots. Thus, it encourages students to use the linguistic, dramatic, and imaginative ability. In group structuring, for example, students can construct their own models of class and organize photos of students and teacher in the classroom. This area stimulates both spatial and personal skill. Overall, Spectrum class has 12 areas designed to train and improve the multiple intelligences of the students (Santrock, 2007:141).

According to Landa (2000), as cited by Santrock, he believes that the multiple intelligences approach is the best way to teach children because children have different abilities. According to him, this new approach has brought great changes to the role of the teacher. Teacher no longer stands in front of the class and teach the students. By this approach, teacher is the facilitator rather than a commander when the students learn in different learning centers associated with different intelligences. The students participate in cooperative learning groups in the center. The learning center provides an opportunity for them to develop their interpersonal intelligence (Santrock, 2007:133).

In addition, students also use body-kinesthetic intelligence to prepare the letter shapes as they learn to write. They also use the intelligence to learn pronouncing vowels when they learn, and learn to pronounce letters when they write. Meanwhile, intrapersonal intelligence is the type of intelligence which is most widely ignored in the traditional classroom. In the multiple intelligences class, the students complete their own self-evaluation sheets after they complete the task in a few centers of learning. Students also make (a portfolio where they record the results of their work so that they can see the progress. Similarly, the implementation of multiple intelligences approach is optimal, and then it also needs the awareness of the parents or the guardian of the students. Therefore, it is also needed parental education called "The Parent-Teacher Connection" (Santrock, 2007:133).

Armstrong also states that in the multiple intelligences curriculum, students take a special field in a variety of subjects involving the eighth intelligence for the real-world skills (e.g. course architecture, the art of planting, the composition of music, yoga, rock collection, or publication) (Armstrong, 2011:178-179).

From the explanation above, it can be concluded that the multiple intelligences as a new learning approach in elementary school has brought a lot of changes in learning activities and classroom management. Teacher is no longer a central figure who dominates the information and learning resources. Students are no longer subjects who receive the information and knowledge provided by the teacher. Teacher is the facilitator and generator that assists the students in learning. Students actively construct their own knowledge. The success of learning is not only judged on one aspect, called logical-mathematical intelligence, but it is also assessed from various aspects, such as

linguistics or language, spatial or visual, kinesthetic or gestures, musical or rhythm, intrapersonal, interpersonal, and naturalist or nature. Thus, essentially, all students have a unique and individual intelligence. Therefore, each of the unique potential of the students needs to be appreciated and developed in accordance with the uniqueness of each student.

## 2. The Meaning of *Mu'allim*, *Murabbiy*, *Mursyid*, and *Mu'addib* in Islamic Education

This discussion will develop a meaning of creativity of professional teacher of classical concepts which have been used in Islamic education: *mu'allim*, *murabbiy*, *mursyid*, and *mu'addib*. In the two main sources of Islam, Al-Quran and Al-Hadith, the terms are explained from the root word as follows:

*And He taught Adam the names - all of them. Then He showed them to the angels and said, "Inform Me of the names of these, if you are truthful." (QS. Al-Baqarah:31)*

*And lower to them the wing of humility out of mercy and say, "My Lord, have mercy upon them as they brought me up [when I was] small." (QS. Al-Israa':24).*

*There shall be no compulsion in [acceptance of] the religion. The right course has become clear from the wrong. So whoever disbelieves in Taghut and believes in Allah has grasped the most trustworthy handhold with no break in it. And Allah is Hearing and Knowing. (QS. Al-Baqarah:256).*

*It has been told to us, Muhammad ibn Muqatil has told us, 'Abdullah had preached to us, Salih bin Hayyi said that there was a man from al-Khurasan told asy-Sya'biy, Abu Burdah has told me from Abu Musa Al-Asy'ariy radliallahu' anhu said, the Prophet Sallallaahu 'Alaihi Wasallam said: If someone educated a female slave and taught a knowledge, then he freed her and married to her, he would get two rewards. And if someone believes in Isa 'Alaihis Salam and believes me, it would be two rewards for him. And a slave (man) when he was devoted to his Lord and obey his master, he would get two rewards. (Narrated by Bukhari No. 3190; Sunan Abi Dawud No. 4481, Musnad Ahmad No. 18777, Sunan an-Nasa'iy No.3292, and Sunan at-Tirmidziy No. 1035).<sup>1</sup>*

From the explanation above, it can be revealed that a professional teacher here actually can be termed as holistic-integralistic teacher. The root word *mu'allim* means that a teacher is required to explain the nature of science he taught and explain the theoretical and practical dimension and then try to awaken students to practice it. Thus, the figure of the teacher, at the same time, is required to transfer knowledge and implement the process of internalization and *amaliah* (implementation) (Muhaimin Mudjia Rahardjo (ed.), 2006:101).

Furthermore, from the term *murabbiy*, a teacher has a task to educate and prepare students in order to be creative, also to set and maintain their creation not to be disastrous for themselves, society, and the natural surroundings (Muhaimin Rahardjo (ed.), 2006: 102-103). This is based on the basic view that God, as *rabb al-'alam* and *rab al-nas*, creates, organizes, and maintains everything in it, including human nature. Mankind, as His vicegerent (QS.Al-Baqarah: 30; QS. Al-An`am: 165) is ordered to develop their creativity to create (Surah Hud: 61), organize, and

<sup>1</sup> Narrated by Bukhari No. 3190, the quality of this hadith is authentic both *sanad* and *matan*. This is also corroborated by other authentic hadiths from another chain of narration that expresses the same thing on Sunan Abi Dawud No. 4481, Musnad Ahmad No. 18777, Sunan an-Nasa'iy No.3292, and Sunan at-Tirdziy No. 1035. See the complete information in Soltanera, *CD of Enscyclopedia Hadith Kitab 9 Imams* (Lidwa Pustaka, 2010-2011). This programm is the translation project of the original software *Kitab Kutubut Tis'ah*, it is CD Mausu'ah Hadis Syarif Versi 2.00, Dar us Salam Publication, Inc, 1991-1997.



preserve nature and its contents (Djumransyah and Amrullah, 2007:36-37).

Meanwhile, the term of mursyid is understood that a teacher (mursyid) tries to pass on the appreciation (trans-internalization) or the character and personality of the students, either in the form of worship ethos, work ethic, ethos of learning, or all-round dedication which is Lillahi Ta'ala (i.e. because sincerity solely to expect the pleasure of Allah SWT). In other word, the teacher is an exemplary figure and role model for their students as well as consultants (Muhaimin Rahardjo (ed.), 2006:104-105).

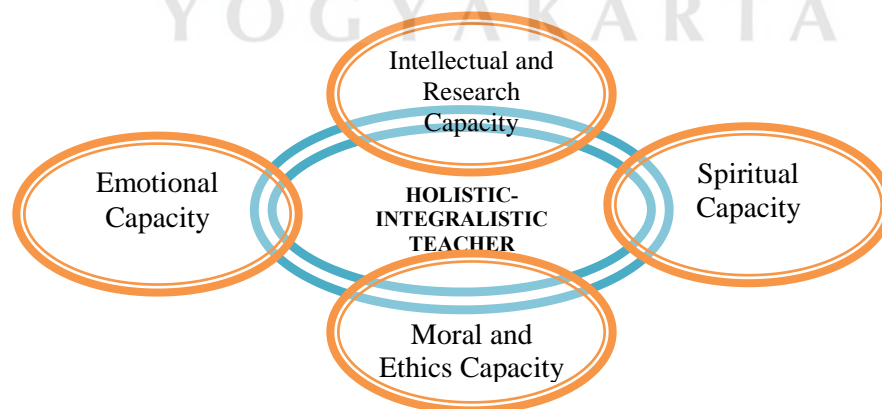
The last, the terms mu'addib means that the teacher is ethical person who has a role and a function to build civilization (Muhaimin Mudjia Rahardjo (ed.), 2006:1045). According to Djumransjah and Amrullah explanation, the teacher in the context of understanding mu'addib must be able to master and practice the knowledge and be able to teach and provide awareness based on civilization (Djumransjah and Amrullah, 2005:36-37).

From the explanation above, it can be concluded that holistic-integralistic teacher is a person who has intellectual and research capacity, the spiritual capacity, moral and ethical capacity, and emotional capacity. The intellectual capacity is manifestation and born from the understanding of the concept mu'allim. The spiritual capacity is manifestation and born from the understanding of the concept of mursyid. Moral and ethical capacity is manifestation and understanding of the concepts of muaddib and murabby. Meanwhile, the capacity to control emotion is the concept of mu'addib. The detailed descriptions about each of these capacities are explained more in the next segment.

### 3. Holistic-Integralistic Teacher as the Concept of Islamic Elementary School Educator of Multiple Intelligences-Based Class

The nature of holistic-integralistic teacher is realization of noble person (QS.At-Tin: 4), intact, and has many advantages more than others (Surah Al-Israa ': 70). He is a person who is intentionally able to care for an individual or some individual, so that they can grow and succeed in life. Muhammad and the other Messangers are the example of the holistic-integralistic teacher. However, Moh. Slamet Untung says that the frst educator (as Muslims believe in) is Allah, while the Messenger is the perfect man, insan kamil, chosen by God to convey revelation through guidance and education (Untung, 2005:52-53).

As if it is decomposed further, a holistic-integralistic teacher as professional teachers in Islamic education has a number of components as shown in Figure 1:



**Figure 1. The characteristics of Holistic-Integralistic Teacher as a Professional Teacher in Islamic Education**



Below is the explanation of the chart in Figure 1 above. *First*, a holistic-integralistic teacher has the intellectual and research capacity. Thus, a professional teacher must have mastery of the science of knowledge both in terms of philosophical, theoretical and practical aspects. In addition, he is also capable of being a mediator and facilitator for students to conduct more research, in laboratory experiments, problem solving for social problems and so on. Hence, the educational process he created can produce positive values in the form of an empirical-rational, objective-empirical, object-mathematical, and professional attitude (Muhaimin Mudjia Rahardjo (ed.), 2006:104).

*Second*, a professional teacher has a spiritual capacity. Thus, the teacher is able to have a religious, work, and learning ethos, and also dedication. In other word, the teacher carries out the profession with full of love, appreciation, passion, and dedication to the profession organization, the institution, the nation and the country. It is not just worldly happiness, but also the Hereafter importance (Muhaimin Mudjia Rahardjo (ed.), 2006:104-105).

*Third*, a professional teacher has moral and ethical capacity. It means, a professional teacher is a teacher who is able to become central of self-identification of the students. With his presence, the students will be infected by trans-internalization (appreciation) character and personality of the teacher (Muhaimin in Mudjia Rahardjo (ed.), 2006:105). In addition, ethical and noble character is the basis for the implementation of roles and functions in development progress of civilization through education, both in physical and spiritual dimension. Fourth, a professional teacher has emotional capacity. It means that a professional teacher is a generator for the process of internalization of values, knowledge, attitude, and skill of the students. He should be able to be a motivator for the implementation of the values that have been taught to be applied in the empirical realm (Muhaimin Mudjia Rahardjo (ed.), 2006:103).

The components of a holistic-integralistic teacher consist of intellectual and research capacity, the spiritual capacity, moral and ethical capacity, and emotional capacity which are relevant and appropriate to the needs of teacher profile for learning process in the multiple intelligences-oriented elementary schools. The relevance can be described as below:

*First*, intellectual and research capacity has relevance to the teacher profile of multiple intelligences class. This is because the teacher in the classroom must be able to accommodate multiple intelligences and provide stimulus to develop linguistic or language, logical or mathematical, spatial or even visual intelligence. Based on Armstrong's explanation, teacher in the classroom who implements the theory of multiple intelligences needs to find the way to give students a hint, not only through the spoken word, but through a picture or graphical symbols (spatial), behavior and physical gesture (body-kinesthetic), musical phrases (musical), logical patterns (logical-mathematical), social signals (interpersonal), emotions (intrapersonal), and living creatures (naturalist) (Armstrong, 2013:121).

*Second*, the spiritual capacity has relevance to the development of intrapersonal intelligence efforts. This is based on the new intelligence found by Gardner. It is existential intelligence. Nonetheless, according to Gardner, this intelligence is still not fully placed on the ninth position of the eight types of intelligence that have been found previously. The appearance of the candidate is based on the intelligence of the human tendency to reflect on the most fundamental question of existence (Gardner, 2013:35). Here, the spiritual capacity has an important role in the development of the new intelligence which is found by Gardner.

*Third* is the moral and ethical capacity. This capacity is demonstrated in the figure of the teacher who is able to become central of self-identification for the students. With his presence, the

students will be infected by trans-internalization (appreciation) character and personality of the teacher. In the multiple intelligences class, the teacher which is able to be central of the students' self-identification can help in activating their intelligence. Armstrong, in a segment "Activators and Deactivators Intelligence" taken from *Multiple Intelligences in the Classroom*, states that the students often experience the 'turning point' in the development of their talents and abilities. It occurs at any age during the period of life, although it usually occurs in early childhood. On the other, Armstrong reinforces that the profile of teacher's intelligences influences their teaching approaches in the classroom. Furthermore, it will open the gates for a range of activities that can help teacher develop the neglected intelligence, activate retarded or crippled intelligence, and bring the development intelligences to a higher level of proficiency (Armstrong, 2013:29 -31).

*Fourth* is the emotional capacity. This skill supports the creation of instructional strategy, atmosphere, and classroom management of multiple intelligences-based class in the following points. First, the teacher must be able to create a learning environment where individual needs (students) are identified and considered in all day. The teacher should provide a comfortable and safe environment, and does not need to make a rule of discipline that sometimes even spoils the atmosphere of the class itself (Armstrong, 2013:127). In other side, Armstrong also describes in the segment 'The teaching strategies of interpersonal intelligence'. He points out that all children have different interpersonal one level or another. Every teacher should be aware of the teaching approaches that combine interaction with and among the people (Armstrong, 2013: 127). In this interaction, an awaited teacher in multiple intelligence class is a person who has emotional skill. It means that the interaction of humanist and educational learning are created if the teacher has a good emotional skill.

#### **D. CLOSING**

From the elaboration above, it can be concluded that multiple intelligences as a new learning approach in elementary school has brought a lot of changes in the learning activities and classroom management. The teacher is no longer a central figure who dominates the information and learning resources, but the role changes as a facilitator and generator. Students are no longer subjects who receive the information and knowledge provided by the teacher, but the students actively construct their own knowledge. Each student has all the intelligences. The intelligences are logical-mathematical, linguistic or language, spatial or visual, kinesthetic or body movement, or rhythm musical, intrapersonal, interpersonal, naturalist or nature, and existential intelligence. Many students can develop each intelligence to an adequate level of competence. Meanwhile, intelligences usually work together in complex ways. There are many ways to be intelligent within every category.

Second, a holistic-integralistic teacher is a professional figure in Islamic education in Islamic elementary school which is built from four main characteristics which are intact and interrelated, including intellectual and research capacity, spiritual capacity, moral and ethical capacity, and emotional capacity.

Third, the relevance of the concept of holistic-integralistic teacher and the necessity of teacher profile for teaching in multiple intelligences-based class of Islamic elementary school lies in some of the followings: intellectual and research capacity which is able to accommodate and provide stimulus to develop linguistic or language intelligence, logical or mathematical intelligence, even or visual spatial intelligence; spiritual capacity which has an important role in the development of existential intelligence; moral and ethical capacity which can help in activating the intelligence

of the students; and emotional capacity which helps to create humanist and educative learning interaction in the multiple intelligences class.

## REFERENCES

- Djumransjah, H.M., and Abdul Malik Kamrullah.(2007). *Pendidikan Islam: Menggali Tradisi, Meneguhkan Eksistensi*. Malang: UIN-Malang Press.
- Muhadjir, Noeng (a). (2000) *Ilmu Pendidikan dan Perubahan Sosial Teori Pendidikan Pelaku Sosial Kreatif*. Yogyakarta: Rake Sarasin.
- \_\_\_\_\_(b). (2011). *Metodologi Penelitian: Paradigma Positivisme Objektif, Phenomenologi Interpretif, Logika Bahasa Platonis, Chomskyist, Hegelian & Hermeneutik, Paradgma Studi Islam Matematik Recursion, Set-Theory & Structura Equation Modelling dan xed Edisi VI Pengembangan 2011*. Yogyakarta: Rake Sarasin.
- Rahardjo (Ed.), H. Mudjia.(2006). *Quo Vadis Pendidikan Islam: Pembacaan Realitas Pendidikan Islam, Sosial dan Keagamaam*. Malang: UIN-Malang Press.
- Untung, Moh. Slamet. (2005). *Muhammad Sang Pendidik*. Semarang: Pustaka Rizki Putra bekerjasama dengan Program Pascasarjana IAIN Walisongo.
- Armstrong, Thomas.(2013). *Kecerdasan Multipel di dalam Kelas Edisi Ketiga*, Diterj.oleh: Dyah Widya Prabaningrum, Jakarta: Indeks.
- Gardner, Howard. (2013). *Multiple Intelligences*, Diterj.oleh: Yelvi Andri Zaimur, Jakarta: Daras Books.
- Armstrong, Thomas. (2011). *The Best Schools: Mendidik Siswa Menjadi Insan Cendikia Seutuhnya*, Bandung: Kaifa.
- Santrock, John W. (2007). *Psikologi Pendidikan*. Edisi Kedua. Jakarta: Kencana Prenada Media Group.
- David Goleman. (1995). *Emotional Intelligence*. New York: Bantam Books.



STATE ISLAMIC UNIVERSITY  
SUNAN KALIJAGA  
YOGYAKARTA



## METAPHORICAL ITEMS ARE QUITE NECESSARY TO LEARN

Written by:

Na'imah

Sunan Kalijaga State Islamic University Yogyakarta Indonesia

=====  
*Metaphorical forms of speech happened because the symbols are still very limited, while the objects that are surrounding human beings in the world are unlimited. The most common types of metaphors are live and dead metaphors. It was said by Lakoff (1980) that "A common definition of a metaphor can be described as a comparison that shows how two things that are not alike in most ways are similar in another important way".<sup>1</sup> They explain how a metaphor is simply understanding and experiencing one kind of thing in terms of another.*

### A. Introducing

A metaphor is one of figurative languages that is created by human creative power in applying sense, and through the creativities of the language, one gives new sense to the symbols of the words (referenes) that have already been existed. It must be understood that the metaphorical forms of speech happened because the symbols are still very limited, while the objects that are surrounding human beings are unlimited. One of the most prominent examples of a metaphor in English literature is the [All the world's a stage](#) monologue from [As You Like It](#). A common definition of a metaphor can be described as a comparison that shows how two things that are not alike in most ways are similar in another important way. Newmark (1988) said: "The purpose of metaphor is basically twofold: its referential purpose is to describe a mental process or state, a concept, a person, an object, a quality or an action more comprehensively and concisely than is possible in literal or physical language"<sup>2</sup> its pragmatic purpose, which is simultaneous, is to appeal to the senses, to interest, to clarify 'graphically', to please, to delight, to surprise.

### B. Metaphors

#### 1. The Conceptual of Metaphor

Metaphor is the concept of understanding one thing in terms of another. Generally, one knows that "a metaphor is a figure of speech that describes a subject by asserting that it is, on some point of comparison, the same as another otherwise unrelated object"<sup>3</sup>.

There are many explanations of how metaphors work but a common idea is that metaphor is somewhat like simile, in that it involves the identification of resemblances, but that metaphor goes further by causing a transference, where properties are transferred from one concept to another. The two concepts involved in a metaphor are...the described concept...is often called the target

1 Lakoff, George & Johnson, Mark 1980. *Metaphors We Live By*. Chicago & London: The University of Chicago Press. p.7.

2 Newmark. 1988. *A Textbook of Translation*. Singapore: Prentice Hall International (UK) Ltd.p.104

3 <http://en.wikipedia.org/wiki/Metaphor>

domain,...and the comparison concept or the analogy...is called the source domain. Lakoff and Johnson (1980) greatly contributed to establishing the importance of conceptual metaphor as a framework for thinking in language. In recent years many scholars have investigated the original ways in which writers use novel metaphors and question the fundamental frameworks of thinking implicit in conceptual metaphors.

## 2. Grammatical structure of a metaphor

Each metaphor has always a complex grammatical structure

- a. *The syntactic structure of a metaphor is able to be in the form of a sentence, clause, or phrase.*
- b. *In the basic structure of the metaphor, there are always two terms, namely 'topic' and 'vehicle'.*
- c. *The notional classes of metaphor included four image projections. They are:*
  - \* *an abstract with the concrete*
  - \* *something that is not animate with the inanimate,*
  - \* *something about the human characteristics to nonhuman, and*
  - \* *one of the five senses with something else*

2. *There are four classes of metaphor; they are:*

- 1). *The **Concretive Metaphor**, which attributes concreteness or physical existence to an abstraction: 'a vicious circle', 'room of negotiation'.*
- 2). *The **Animistic Metaphor**, which attributes animate characteristics to the inanimate: 'an angry sky', 'the shoulder of the hill'.*
- 3). *The **Humanizing ('Anthropomorphic') Metaphor**, which attributes characteristics of humanity to what is not human: 'This friendly river', 'laughing valleys'.*
- 4). *The **Synaesthetic Metaphor**, which transfers meaning from one domain of sensory perception to another: 'dull sound', 'loud perfume' (Leech, 1969)<sup>4</sup>.*

In this case, each metaphor must be in one of the classes of metaphor, and other metaphors can be in other classes of it. The class of metaphor depends on relationship of its tenor and vehicle.

## 3. The Position of Metaphor

*Metaphor is in the highest level among the figure of speech (Metaphor, Metonymy, Synecdoche, Irony). Such as it is described by Daniel (2002)<sup>5</sup>. The position of metaphor can be described as the following tables*

**Table 1: The Four 'Master Tropes'**

<b>The Four 'Master Tropes'</b>			
<i>Trope</i>	<i>Basis</i>	<i>Linguistic Examples</i>	<i>Intended Meaning</i>
<i>Metaphor</i>	<i>Similarity despite difference (explicit in the case of simile)</i>	<i>I work at the coal fare</i>	<i>I work at the coal fare</i>

4 Leech, Geoffrey N. 1969. *A Linguistics Guide to English Poetry*. Hong Kong:

Longman Group Ltd.p.158.

5 Daniel, Chandler. 2002. *The Basics Semiotics*. London: Routledge.p.136.

<i>Metonymy</i>	<i>Relatedness through direct association</i>	<i>I'm one of the suits</i>	<i>I'm one of the managers</i>
<i>Synecdoche</i>	<i>Relatedness through categorical hierarchy</i>	<i>I hate working here</i>	<i>I deal with customers</i>
<i>Irony</i>	<i>Inexplicit direct oppocite (more explicit in sarcasm)</i>	<i>I love working here</i>	<i>I hate working here</i>

**Table 2: Tropes, genres, workviews, and Ideologies.**

<i>"Tropes, genres, workviews, and ideologies"</i> <sup>1</sup>			
<i>Trope</i>	<i>Genre (mode of emplotment)</i>	<i>Worldview (mode of argument)</i>	<i>Ideology (mode of ideological implication)</i>
<i>Metaphor</i>	<i>romance</i>	<i>formism</i>	<i>Anarchism</i>
<i>Metonymy</i>	<i>comedy</i>	<i>organism</i>	<i>Conservatism</i>
<i>Synecdoche</i>	<i>tragedy</i>	<i>mechanism</i>	<i>Radicalism</i>
<i>Irony</i>	<i>satire</i>	<i>contextualism</i>	<i>Liberalism</i>

With the 2 table above, we can see the various systems of classification as structurally homologous with one another about the metaphors.

**Table 3: The Positions of Metaphor and Metonymy**

<p><b><i>Metaphor and Metonymy</i></b></p> <p><i>metaphor !</i>  <i>paradigm !</i>  <i>similarity !</i>  <i>substitution !</i>  <i>selection !</i> _____</p> <p><i>metonymy</i>  <i>syntagm</i>  <i>contiguity</i>  <i>context</i>  <i>combination</i></p>
--

This table 3 is the clearest described than the table 1 and 2 above. The phenomena are seldom as tidy as our system of classification. Systems always leak and it is for the individual reader to asses how interpretatively useful the application.

#### 4. **“Metaphors assert similarities”.**

*The aims of similarities are: physical similarities, characteristic similarities, conceptual similarities or cultural similarities. Stern, Josef, “Metaphor in Context”, (Stern, 2000).<sup>6</sup> For a metaphor is a figure of speech that describes a subject by asserting that it is, on some point of comparison, the same as another otherwise unrelated object.*

In simpler terms, a metaphor compares two objects/things without using the words “like” or “as”. In order to understand the meaning the metaphor is not so easy, because we should pay attention the four steps carefully. These are the four parts for having the meaning of a metaphor.

#### 5. **A metaphor has four parts, they are**

- a. *image-the second proposition (figurative), i.e. what is being compared with.*
- b. *topic-the first proposition (nonfigurative), i.e. the thing really being talked about.*
- c. *point of similarity-found in the comments of both of the proposition involved or the comment of an event proposition which has the image as topic.*
- d. *nonfigurative equivalent- when the proposition containing the topic as an event proposition, the comment is the nonfigurative equivalent (Larson, 1984)<sup>7</sup>.*

*We can not directly to think to the last step for having the meaning of a metaphor. A metaphor is a figure of speech that describes a subject by asserting that it is, on some point of comparison, the same as another otherwise unrelated object. Metaphor is a type of analogy and is closely related to other rhetorical figures of speech that achieve their effects via association, comparison or resemblance including allegory, hyperbole, and simile.*

There are main types of metaphors that are often used in our communication. They are live and dead metaphors. Between the two metaphors, the live metaphor is much more expressive. Follow the explanation below:

#### 6. **The Types of Metaphors (Live and Dead Metaphors).**

- a. *“A live metaphor is one which is understood only after paying special attention to the comparison which is being made” (Larson 1984).<sup>8</sup> The live metaphors are constructed on the spot by the author or speaker to teach or illustrate. Example, He is **a rock**. It has the tenor of ‘He’, and the vehicle of ‘**a rock**’ as a metaphorical term. In the relationship among the two terms, there is a point of similarity, such as the character of ‘hard’.*
- b. **Dead Metaphor**
  - *“Dead metaphors are those which are a part of the idiomatic constructions of the lexicon of the language”.<sup>9</sup> We can pay attention when a dead metaphor is used, the person listening or reading does not think about the primary sense of the words, but only about the idiomatic sense directly. An idiom is a dead metaphor. One can understand the dead metaphor easily, for the dead metaphor is one which is understood directly without paying attention to the comparison. Example: ‘the leg of table’.*

#### 7. **In general, there are five ways that metaphors may be translated**

- a. *The metaphor may be kept if the receptor language permits (that is, if it sounds natural and is understood correctly by the readers)*

<sup>6</sup> Stern, Josef. 2000. *Metaphor in Context*. Hongkong: Massachusetts Institute of Technology.p.147.

<sup>7</sup> Larson, L. Mildred. 1980. “*Meaning Based Translation*”, (England: University Press of America.p.147.

<sup>8</sup> Ibid. 249.

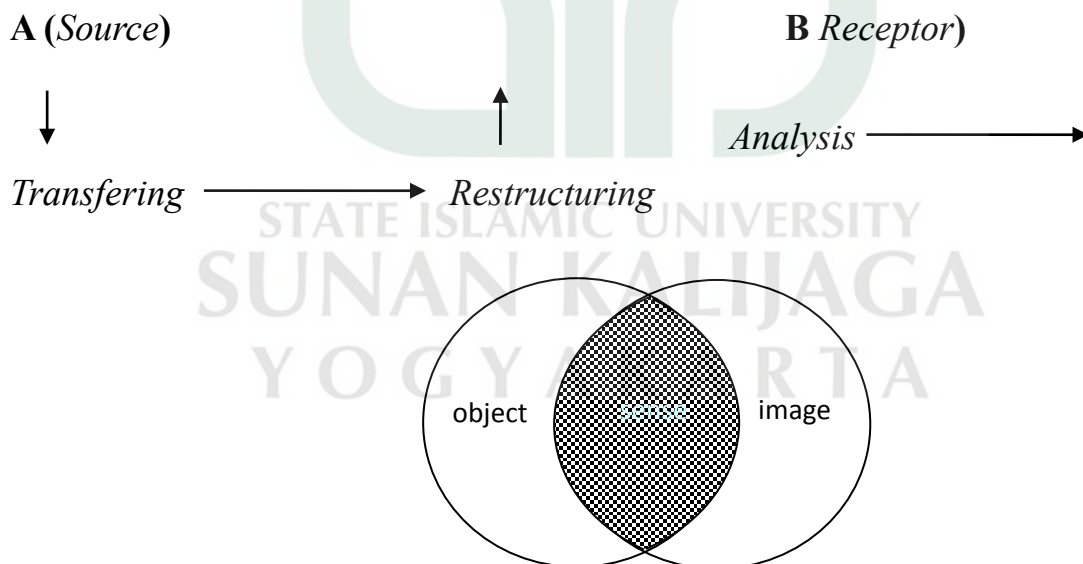
<sup>9</sup> Ibid. 250.



- b. *A metaphor may be translated (as a simile, adding 'like', or 'as') by shifting*
- c. *A metaphor of the receptor language which has the same meaning may be substituted;*
- d. *The metaphor may be kept and the meaning explained (that is, the topic and/or point of similarity may be added); and*
- e. *The meaning of the metaphor may be translated without keeping the metaphorical imagery.*

Some theorists have suggested that metaphors are not merely stylistic, but that they are cognitively important as well. In *Metaphors We Live By* George Lakoff and Mark Johnson argue that metaphors are pervasive in everyday life, not just in language, but also in thought and action. A common definition of a metaphor can be described as a comparison that shows how two things that are not alike in most ways are similar in another important way. They explain how a metaphor is simply understanding and experiencing one kind of thing in terms of another. The authors call this concept a “conduit metaphor”. By this they meant that a speaker can put ideas or objects into words or containers, and then send them along a channel, or conduit, to a listener who takes that idea or object out of the container and makes meaning of it. In other words, communication is something that ideas go into. The container is separate from the ideas themselves. Lakoff and Johnson (1980) give several examples of daily metaphors we use, such as “argument is war” and “time is money”.<sup>10</sup> Metaphors are widely used in context to describe personal meaning. The authors also suggest that communication can be viewed as a machine: “Communication is not what one does with the machine, but is the machine itself.” (Johnson, Lakoff, 1980).<sup>11</sup>

Concerning to translation, Brislin (1976) said: “Translation is the general term referring to the transfer of thoughts and ideas from one language (source) to another (target)”.<sup>11</sup> Nida & Taber (1969: 33) described the three stages process of translation in as the following picture 4.



**Picture 1: The Process of Translation by Nida & Taber (1969).<sup>12</sup>**

1. *Analysis, in which the surface structure (the message as given in source language is analyzed in*

10 Lakoff, George & Johnson, Mark. 1980. *Metaphors We Live By*. Chicago & London: The University of Chicago Press. p. 18.

11 Brislin, Richard W. (ed). 1976. *Translation Applications and Research*. New York: Gardener Press, Inc. P.1.

12 Nida, Eugene and Charles, R. Taber. 1969. *The Theory and Practice of Translation*. Leiden: Published for the United Bible Societies. p.33.

terms of (a) the grammatical relationship and (b) the meanings of the words and combinations of words,

2. *Yransfer*; in which the analyzed material is transferred in the mind of the translator from source language to receptor language, and
3. *restructuring*, in which the translated material is restructured in order to make the final message fully exepctable in the receptor language.

*The process of translation, then can be used to translate a metaphor with the special treatment of translation of metaphor. as described below:*

Stern, Josef. 2000. *Metaphor in Context*. Hongkong: Massachusetts Institute of Teknology.p.147.

. Larson, L. Mildred. 1980. "*Meaning Based Translation*", (England: University Press of America.p.147.

The translation of metaphor

Object : what is described or qualified by the metaphor

Sense : the literal meaning of the metaphor; the resemblance or the semantic area overlapping object and emage, usually this consists of more than one sense component – otherwise literal language would do

Image : the picture conjured up by the metaphor, which may be universal,

(Newmark:1980).<sup>13</sup>

### C. CONCLUSION:

*It is necessary for linguists to understand well about metaphors. A metaphor is the imaginative use of a word or phrase to describe somebody or something as an other object in order to show that they have the same qualities and to make the description more forceful. It is clear enough that **metaphor is the concept of understanding one thing in terms of another. A metaphor has grammatical structures, classes and types of metaphor. Each has temor and vehicle, it has non-literal meaning.***

### REFERENCES

Brislin, Richard W. (ed). 1976. *Translation Applications and Research*. New York: Gardener Press, Inc.

Lakoff, George & Johnson, Mark. 1980. *Metaphors We Live By*. Chicago & London: The University of Chicago Press.

Larson, L. Mildred. 1980. "*Meaning Based Translation*", (England: University Press of America.

Leech, Geoffrey N. 1969. *A Linguistics Guide to English Poetry*. Hong Kong: Longman Group Ltd.

Leech, Geoffrey N. 1969. *A Linguistics Guide to English Poetry*. Hong Kong: Longman Group Ltd.

Newmark, Peter1988. *A Textbook of Translation*. Singapore: Prentice Hall International  
13 . Newmark, Peter1988. *A Textbook of Translation*. Singapore: Prentice Hall International (UK) Ltd. 34.

(UK) Ltd.

Nida, Eugene and Charles, R. Taber. 1969. *The Theory and Practice of Translation*. Leiden: Published for the United Bible Societies.p.33.

Stern, Josef. 2000. *Metaphor in Context*. Hongkong: Massachusetts Institute of Teknology.

<http://en.wikipedia.org/wiki/Metaphor>





STATE ISLAMIC UNIVERSITY  
SUNAN KALIJAGA  
YOGYAKARTA



# IMPROVING THE STUDENTS' SKILLS IN WRITING DESCRIPTIVE TEXTS THROUGH DIGITAL IMAGES AT THE EIGHTH GRADE OF SMP ALI MAKSUM PONDOK PESANTREN KRAPYAK BANTUL IN THE ACADEMIC YEAR OF 2013/2014

**Author**

**Jubaedah**

[wahidin8282@gmail.com](mailto:wahidin8282@gmail.com)

---

## ABSTRACT

The objective of the research was to improve the students' skills in writing descriptive texts through digital images at the eighth grade of SMP Ali Maksum Krapyak Yogyakarta in the academic year 2013/2014. It consisted of two main actions and one additional action: 1) giving a model of descriptive text and asking the students to list the difficult words, 2) using digital images in the class, and 3) giving rewards and brainstorming to motivate the students.

The research was action research. The members of the research consisted of the researcher, the collaborator, the English teacher, and the students of Grade VIIID. The research was carried out in two cycles. The steps involved reconnaissance, planning, action and observation, and reflection. The data of the research were qualitative in nature supported by quantitative data. The qualitative data were obtained by observing the teaching and learning process and interviewing the English teacher and the students of VIIID. The qualitative data were in the forms of field notes and interview transcripts were analyzed based on the qualitative data analysis. The pre-test and post-test were conducted to gain the quantitative data. A gain score of pre-test and the post-test was used to analyze the quantitative data that were in the forms of students' writing scores.

The findings showed that digital images have three important points. They are practicality, novelty, and clarity. The use of digital images in the research evidently improved the students' skills in writing descriptive texts. The improvements covered: 1) the students consider writing as an easy and interesting lesson, indicated by their enthusiasm to write, 2) students generated their ideas easier into paragraph, 3) and digital images improved the students' skills in writing descriptive texts in terms of grammatical, vocabulary, and sentence structure. The improvement of the students' writing skills can be seen from the result of the gain score. The gain score of the means was 6.65, it could be concluded that there was improvement in the students' skills in writing descriptive texts after the digital images were used in the class.

**Keywords:** *improving, skills in writing descriptive texts, digital images*

---

## INTRODUCTION

English, as one of the subjects in all the educational levels, is given a greater attention in every educational level since it becomes a compulsory subject needed by the students to face the globalization and free market era. In the School-Based Curriculum, the English lesson especially

writing for junior high schools (SMP/MTs) is aimed to develop the communicative competences in spoken and/or written language to reach the functional level. When the students reach the functional level, they can fulfill their needs like writing the letters, comprehending the procedure texts well, and describing something.

Some of the junior high school students, however, have not reached the functional level well. They still have difficulties in the writing lesson. When the English teacher asked them to write a descriptive text, only a few of them understood the descriptive text. The result of their assignment of writing descriptive text is not satisfying. Some of them still have difficulties in using structure and grammar of the writing of a descriptive text. It can be concluded that the students still have difficulty in writing descriptive texts.

When I observed SMP Ali Maksum Krapyak, Bantul, Yogyakarta, more than half of the students of VIII D in the first semester of 2013/2014 academic year still had difficulties in writing descriptive texts. The major problem that the students faced was how to get an idea and develop it. The problems might be because of the teaching method, the technique, the materials, the media or the combination of them. In order to generate students' active participation in class, teachers must be both communicative and creative. Teachers have to encourage all students to participate actively during the lesson, so that not only some students are actively involved in class activities. Besides, the materials and learning media should be educational, attractive, and up to date.

## LITERATURE REVIEW

There are some literature reviews and theoretical background as the description of the theories and relevant definitions related to the research. The theories include the English language teaching and learning, teaching and learning writing, the characteristics of the students of junior high schools, text types in English, and the role of media in teaching and learning process.

Writing is one of the important skills that students need to develop. The ability to write is very important for the academic context, business and personal relation in the global community (Weigle, 2002:1). Writing and speaking are productive skills. It means that the writers and speakers go through producing a language (Harmer, 2007:7). Furthermore, Rivers (1981:291) states that writing is more difficult than speaking as writing is 'communicating into space'. In face-to-face communication, there is little time to think and produce it. The writing process is the stage that the writer goes through in order to produce something in his final written form (Harmer, 2004:11). Still, he states that there are four-steps in the writing process. They are planning, drafting, editing and final draft.

According to Feez and Joyce (1998: 4), a text is any stretch of language which is held together cohesively through meaning. Whether a stretch of language is a text or not has nothing to do with its size or form. It has to do with the meanings of the stretch of language working together as a unified whole. Anderson and Anderson (1997:1) state that texts are divided into two main categories, literature texts and factual texts. According to Anderson and Anderson (1998: 26) a description text describes a particular person, place or thing. Its purpose is to tell about the subject by describing its features without including personal opinions. Description differs from an information report because it describes a specific subject rather than a general group. The description text has three main parts, a general opening statement in the first paragraph, a series of paragraphs about the subject, and a concluding paragraph.

Harmer (2004:177) states that media such as a range of objects, pictures, cards and other things can be used for presenting and manipulating language. It lets the students to be active in all

activities in the class. Vernon (1996) states that there are six kinds of media, drawing or teacher mode drawings, pictures, audio recording, motion picture and TV, real object, simulation, and models, and programmed and computer-assisted instruction. Of all types of media, visual media are more preferable because most people learn more easily by their sight than other sensory perception (Corder, 1966: ix, in Ratnasari, 2010). Digital image is still picture in electronic file format in any form and of any subject including those derived from analog images such as scanned photographs and slides (Kandiuk: 2011). Considering that a digital image is still a picture, I elaborate the definition. A picture is a photograph, drawing, and painting. According to Wright (1989:193), the appropriate picture in a descriptive text is a single object picture. It is because, describing means imagining something or someone focusly. Thus, to describe something or someone, students need a single object. Harmer (2001:134) states that all kinds of pictures can be used in the multiplicity of ways. They are drill, communication games, understanding, ornamentation, prediction and discussion. Harmer (2007:330) also states that pictures can provide stimulation for writing habitual activities. According to Wright (1989:2), specifically, pictures contribute to interest and motivation, a sense of the context of the language, a specific reference point or stimulate.

## RESEARCH METHODS

The research is an action research. It focused on the efforts to improve students' skills in writing descriptive texts by using digital images. It is categorized as an action research since there was a self-reflective, critical, systematic approach that was done to identify the problematic situation as a way of improvement and changes in educational practice. McNiff and Whitehead (2006: 7) state that action research is a form of study that enables practitioners to investigate and evaluate their work.

The research data are qualitative and are also supported by the quantitative data. The qualitative data were obtained through interviews and observation. Tests were used to attain the quantitative data. I used pre-test before implementing the actions and post-test after implementing the actions. The scores from pre-test and post-test would be compared to acquire the data. After getting the data, I continued to the next step to analyze the data. Based on Miles & Huberman (1994: 26), there are three steps to analyze the data: reducing data, displaying data, and drawing and verifying conclusions. In addition to that, to analyze the quantitative data which were in the form of students' writing performance task scores, I used a writing rubric adapted from Jacobs et al. in Weigle (2002: 116). The rubric provides four aspects of writing namely content, organization, vocabulary, and language use in which each of them is scaled from 1 to 4. Hence, the maximum score is 16, while the minimum score is 4.

**Scoring Rubric for Writing Production**  
(adapted from Jacobs *et al* ; 1981)

<b>CONTENT</b>	4	Excellent to very good	Knowledgeable, thorough development of thesis, relevant to the topic
	3	Good to average	Some knowledge of subject, limited development of thesis, mostly relevant to topic, but lacks detail
	2	Fair to poor	Limited knowledge of subject, inadequate development of topic
	1	Very poor	Does not show knowledge of subject, not enough to evaluate
<b>ORGANIZATION</b>	4	Excellent to very good	Fluent expression, ideas clearly stated, well-organized, logical sequencing, cohesive
	3	Good to average	Loosely organized but main ideas stand out, limited support, logical but incomplete sequencing
	2	Fair to poor	Non-fluent, ideas confused or disconnected, lacks logical sequencing and development
	1	Very poor	Does not communicate, no organization, not enough to evaluate
<b>VOCABULARY</b>	4	Excellent to very good	Sophisticated range, effective word choice, word form mastery
	3	Good to average	Adequate range, sometimes errors of word choice, usage but meaning not obscured
	2	Fair to poor	Limited range, frequent errors of word choice, usage but meaning confused or obscured
	1	Very poor	Essentially translation, little knowledge of English vocabulary, not enough to evaluate
<b>LANGUAGE USE</b>	4	Excellent to very good	Effective complex constructions, few errors of agreement, tense, number, word order, articles, pronouns and preposition
	3	Good to average	Effective but simple constructions, minor problems in complex constructions, several errors of agreement, tense, number, word order, articles, pronouns and preposition
	2	Fair to poor	Major problems in simple/complex constructions, frequent errors of negation, agreement, tense, number, word order, articles, pronouns and preposition, meaning confused or obscured.
	1	Very poor	Almost no mastery of sentence construction rules, dominated by errors, does not communicate, not enough to evaluate.



## RESEARCH PARTICIPANTS

The participants of the research were the English teacher, the students of the VIIID of SMP Ali Maksum Krpyak and me. The English teacher and I were the collaborators of the research, and the students were the object of the research.

The school is an Islamic-Based school. There were many lessons that support Arabic skills. It was inversely proportional to English lesson. The school gave less attention to English. The class had 37 students. They live in an Islamic boarding house near the school. It is about 100 meters from the school. They were in the age of 14 years old and they had attended English lesson since they were at Elementary school.

The class was chosen by the English teacher because almost all of the students in the class still had difficulty in writing, especially in some aspects in writing, like vocabulary, grammatical structure, and how to generate their ideas to write more.

## RESEARCH SETTING

The research was held from October to November 2013. The following is the time schedule of the research. The research was conducted in SMP Ali Maksum Krpyak Sewon Bantul. SMP Ali Maksum Krpyak is located in Jl. Cuwiri Komplek Pondok Pesantren Krpyak, Krpyak Pangung Harjo, Sewon, Bantul, Yogyakarta 55011.

## FINDINGS

Based on the classroom observation, I presented a vignette which explains the process of English teaching and learning below:

### The English Teaching-Learning Process in Class VIIID of SMP Ali Maksum

It has 27 students and all of them are female students. They made a lot of noise before the teacher came, then the teacher greeted the students in English. Later, she asked them to pray together. She asked them who was absent that day. She opened the lesson in Indonesian. She asked them to open the LKS entitled "*Kejar*" page 20. She began to explain about expressions how to *describe your idol*. I observed that the students made a lot of noise by talking to each other.

Then, the teacher read the expressions; she asked them to repeat after her. Only a number of students paid attention to the teacher's instruction. Most of the students did not give responses to the teacher. Moreover, when the teacher explained the materials many students still made a lot of noises by talking to each other and doing something to disturb other students. However, the teacher did not use any media to make students interested in joining the lesson. Also, the teacher did not make any class discussions in explaining the materials. The students only kept silent while the teacher explained the materials. There were two students who slept in the middle of teaching learning process. If the teacher tried to ask a question to the students, the students gave a few responses to the teacher. When the teacher asked any problem with the material? The students only said "no". Meanwhile, some students still made a lot of noises in the classroom. The teacher only said in Indonesian, "*coba yang dibelakang tolong perhatikan. Nanti kalo ditanya pada gak tau lagi*" (Hey you in the back, pay attention to me please. If you don't pay attention to me, you can't answer if I give you a question)"

After the teacher explained the materials, she gave exercises related to the materials. The exercises given by the teacher were taken only from the students' worksheet (LKS). The students were asked to describe some idols in the worksheet (LKS). Then, she prepared the answer column in the whiteboard. She asked the students to write the answers in the whiteboard randomly and then describe it in the book. The students seemed confused on how to describe the idol. It can be seen from the situation and the result of students' work. There were many students asked their friends and cheated their friends' work. Some students got bad mark on their writing task. Then, she asked them to do the other exercises in LKS. She asked them to match the antonym words. The time finished, she asked them to do the other exercises as

From the vignette, it can be implied that the process of English teaching and learning did not run very well. The students were noisy during the lesson. Besides, they also had difficulties in mastering English, especially writing. It can also be seen from the result of the interview done after observing the teaching and learning process. The following are some interview transcripts which show students' difficulties:

- |     |   |
|-----|---|
| R   | : " <i>kesulitannya dimana?</i> "<br>(Which part is difficult?)   |
| S19 | : " <i>Kadang banyak yang sama (cara bacanya) tapi gak tau artinya... gitu</i> "<br>: ("sometimes, there are some words that have almost the same pronunciation, and I don't understand the meaning") |
| R   | : " <i>terus ada lagi ga?</i> "<br>(Anything else?)   |

S19	: “ <i>Ya banyak</i> ” ( <b>“Sure, there’s so many”</b> )
R	: “ <i>ya banyaknya apa lagi? Biar saya tahu.</i> ( <b>Yes I see, what else? Can you mention it? Tell me.”</b> )
S19	: “ <i>menyusun kata-katanya gitulah</i> ” ( <b>how to arrange the words correctly, something like that</b> )“
R: Researcher S: Student (Interview 2, November 25 <sup>th</sup> , 2013)	

R	: “ <i>Kesulitannya kira-kira dimana?</i> ” ( <b>“Which part is difficult for you?”</b> )
S33	: “ <i>di kosakata, menyusun kalimatnya, tensesnya, ya banyak lagi pokoe.</i> ( <b>I have difficulties in learning the vocabulary, arranging words, tense, and so many things</b> )”
R: Researcher S: Student (Interview 3, November 25 <sup>th</sup> , 2013)	

R	: “ <i>dari SD sampai sekarang kesulitannya belajar bahasa inggris dimana?</i> ” ( <b>From elementary school till now, what is the difficult in learning English?”</b> )
S5	: “ <i>mmm... apa ya? dari kosakata, terus dari pengucapan, penulisan.. ya banyaak laah.</i> ” ( <b>“mmm... the vocabulary, then the pronunciation, the process of writing, and the like”</b> ).
R	: “ <i>sesulit apa sih menurut kamu?</i> ” ( <b>How difficult is it for you?”</b> )
S5	: “ <i>sulit banget</i> ” ( <b>It’s very difficult”</b> )
R: Researcher S: Student (Interview 4, November 25 <sup>th</sup> , 2013)	

I realized that in the first time the action was implemented, there were only a few students were enthusiastic in comprehending the text, but in the next time, there were more students were enthusiastic in comprehending the text. They felt that it was not difficult to comprehend the text if we wanted to try. The students’ opinion can be seen in the interview transcript below:

R	: “Oke. <i>By the way</i> , kalo nulisnya gimana? Ada kesulitan nggak?” (“okay, by the way, what about the writing process, is there any difficulties?”)
S13	: “ <i>Alhamdulillah</i> ga terlalu sulit. Lumayan terbantu sama gambarnya bu. ( <b>Alhamdulillah it’s not so difficult. The images were helping me enough.</b> )
R	: “Oke, jadi untuk menuangkan ide udah bisa ya?” ( <b>okay, so now, you’re already able to generate your idea, aren’t you?</b> )
S13	: “Iya, bu” (“yes ma’am”)
R	: “oiya tadi kamu bilang gambarnya membantu, membantunya gimana tuh?” ( <b>you said that the images were helping you in the writing process, how did they help you?</b> )
S13	: “itu bu, lebih gampang gitu mau nulis apa kan ada yang dilihat, ada bentuknya, dari gambarnya kan bisa ngebayangin juga apa nantinya yang mau ditulis” ( <b>it made me more easy to write because I can see the image with exact visual and shaped. From the images, I also can imagine what will I write.</b> )

R: Researcher S: Student (Interview 11, November 25<sup>nd</sup>, 2013)

Most of the students enjoyed the material and gave positive responses. They liked to learn English with the new materials which is given by me. I showed the whole improvement of the actions that had been done in every cycle.

#### The Improvement of each cycle

Cycle	Actions	Meeting 1	Meeting 2	Meeting 3	Meeting 4
1	a. Giving a model of descriptive texts and asking the students to list the difficult words.	NS	S	-	S
	b. Implementing pictures in the class.	S	NS	-	S
	c. Giving rewards to motivate the students.	NS	S	-	S
2	a. Giving modeling texts and asking the students to list the difficult words.	S	S	S	S
	b. Implementing pictures in the class.	S	S	S	S
	c. Giving rewards to motivate the students.	S	S	S	S

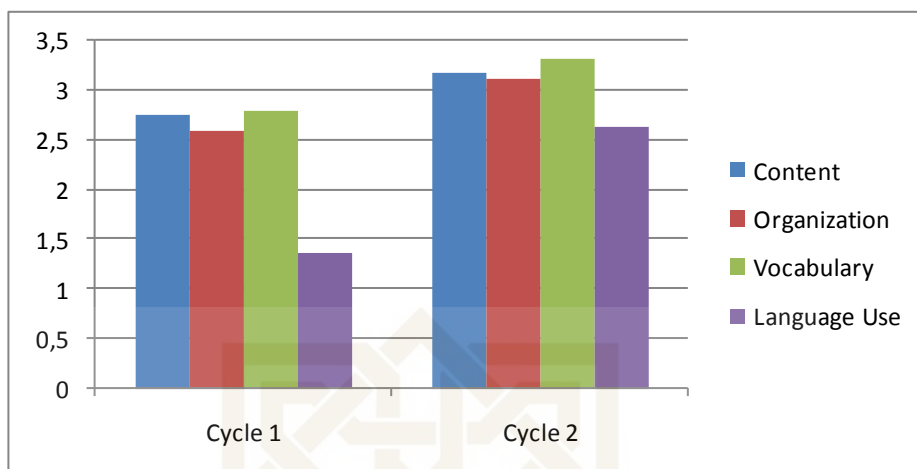
**Note:**

NS: not successful

S: successful



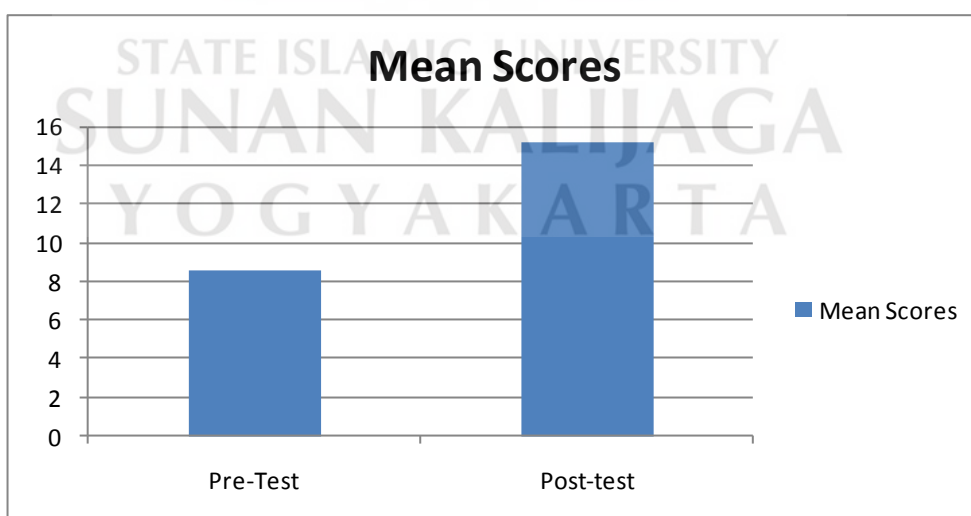
**The Mean Scores of Students' Skills in Writing Descriptive texts**



In Cycle 1, the average between meetings 1 and 2 was 2.76 for the content, 2.59 for the organization, 2.79 for the vocabulary, and 1.33 for the language use. It can be implied that the actions implemented in Cycle 1 were successful to improve students' skills in writing descriptive text in term of ideas generation. However, there were still some problems occurred dealing with the teaching-learning process and the students' grammatical features mastery. Consequently, the English teacher and I continued the cycle.

In Cycle 2, the average between meeting 3 and 4 was 3.18 for the content, 3.12 for the organization, 3.31 for the vocabulary, and 2.63 for the language use. It can be implied that the actions implemented in Cycle 2 were successful to improve students' skills writing descriptive texts in term of ideas generation and grammatical features mastery. Therefore, the English teacher and I decided to stop the cycle.

**The Mean Scores of the Pre-test and the Post-test**



The mean score of the pre-test was 8.54. The mean score of the post-test was 15.19. The gain score of the pre-test and the post-test was 6.65. It could be concluded that there was improvement in the students' skills in writing descriptive texts after the digital images were used in the class.

The findings showed that digital images have three important points. They are practicality, novelty, and clarity. Practicality means that digital images were easy to operate, to find and even to make. Novelty means that digital images were something new and it is in line with the students' condition nowadays who live in the digital era. Clarity means that digital images were colorful and natural. The more colorful the images the better the students could generate their ideas.

The use of digital images in the research evidently improved the students' skills in writing descriptive texts. The improvements covered: 1) the students consider writing as an easy and interesting lesson, indicated by their enthusiasm to write, 2) students generated their ideas easier into paragraph, 3) and digital images improved the students' skills in writing descriptive texts in terms of grammatical, vocabulary, and sentence structure.

The improvement of the students' writing skills can be seen from the result of the gain score. The gain score of the means was 6.65, it could be concluded that there was improvement in the students' skills in writing descriptive texts after the digital images were used in the class.

## DISCUSSION

As the final reflection, the English teacher and I as the collaborator discussed the result of the research. They drew a conclusion that digital images can be the effective tools to help students in doing the writing project. In other words, digital images can improve students' skills in writing descriptive texts. Therefore, after the result of the last cycle had shown a good improvement in students' writing skills, the English teacher and I decided to stop the cycle. It can be seen from these data:

### 1) Qualitative Data

The sources of the qualitative data were acquired from the observation in the form of field notes, interview transcripts, photographs, and samples of students' works. Those data gave the significant result of the research. From the observation and interview at the reconnaissance stage, it can be implied that students assumed English as a difficult subject, especially writing. Since those problems occurred, the researcher and the English teacher decided to solve the problems by applying some strategic solutions. The solutions were by using digital images in combination with brainstorming, and also by group activities from the easier to more difficult level or from guided to free practice. The aim of the solution is to motivate students to do their writing well with enjoyment. They could change their assumption that writing was difficult. Besides, the students had difficulties in using appropriate vocabulary, punctuation, and capitalization. They also had difficulties in generating ideas and organizing them into good paragraphs. Moreover, they had low grammatical features mastery. Therefore, the English teacher and I agreed to use digital images combined with group work and brainstorming. The aim of the solution is to solve the writing problems in terms of ideas, grammatical features, and organization.

### 2) Quantitative Data

The quantitative data were acquired from the gain scores of the four writing aspects. However, to ease the interpretation, I present a conversion table consisting of six categories namely "very poor", "poor", "fair", "good", "very good", and "excellent". The table is presented as follows:

**Conversion table of students' writing scores**

No.	Class Interval	Categorization	Cycle 1		Cycle 2	
			1	2	3	4
1.	14.1 – 16.0	Excellent	-	-	-	12
2.	12.1 – 14.0	Very Good	-	-	2	12
3.	10.1 – 12.0	Good	-	13	34	13
4.	8.1 – 10.0	Fair	24	24	1	-
5.	6.1 – 8.0	Poor	13	-	-	-
6.	4.0 – 6.0	Very poor	-	-	-	-

Based on the table above, it can be interpreted that in the first meeting, there were still some students who were in the “poor” and “fair” categories, while in the second meeting, none of them were in poor category. In the third meeting, there is only 1 student who was in the “fair” category. Finally, in the fourth meeting, none of them were in very poor to fair categories. All of them improved their skills in writing descriptive texts.

## CONCLUSIONS

Based on results of the research, it can be concluded that digital images could evidently improve the students' skills in writing descriptive texts. The improvement could be seen from some points. The first, the students did not consider writing as a boring and difficult lesson, indicated by their enthusiasm to write. The second, the students were able to generate their ideas into paragraph. The third, digital images improved the students' skills in writing descriptive texts in terms of grammar, vocabulary, and sentence structure. Moreover, digital images created interesting atmosphere in the classroom. It is because digital images have three important points. They are practicality, novelty, and clarity. Because of those three points, the students showed positive progress in writing skills. It was shown from the scores in the first and second cycles. They improved in constructing sentences, choosing appropriate vocabulary, organizing the generic structure, using correct grammar and integrating ideas. The improvement of the students' writing skills can be seen from the result of the tests. The mean score of the pre test was 8.54, while the mean score of the post test was 15.19. The gain score of the means is 6.65, it could be concluded that there was improvement in the students' skills in writing descriptive texts after the digital images were used to teach.

## REFERENCES

- Anderson, M. and Anderson, K. 1997. *Text Types in English*. South Yarra: Macmillan Education Australia PTY LTD.
- Brown, H. D. 2000. *Principle of Language Learning and Teaching*. (4<sup>th</sup> edition). New York: Addison Wesley Longman, Inc.
- \_\_\_\_\_, H. D. 2001. *Teaching by Principles: An Interactive Approach to Language Pedagogy*. (2<sup>nd</sup> edition). New York: Addison Wesley Longman, Inc.
- Feez, S. and Joyce, H. 1998. *Text Based Syllabus Design*. Sydney: Macquarie University.
- Green, D. 2006. *Using digital images in teaching and learning: Perspectives from liberal arts*

*institutions*. Retrieved 3 Jan. 2011 from <http://www.academiccommons.org/files/image-report.pdf>

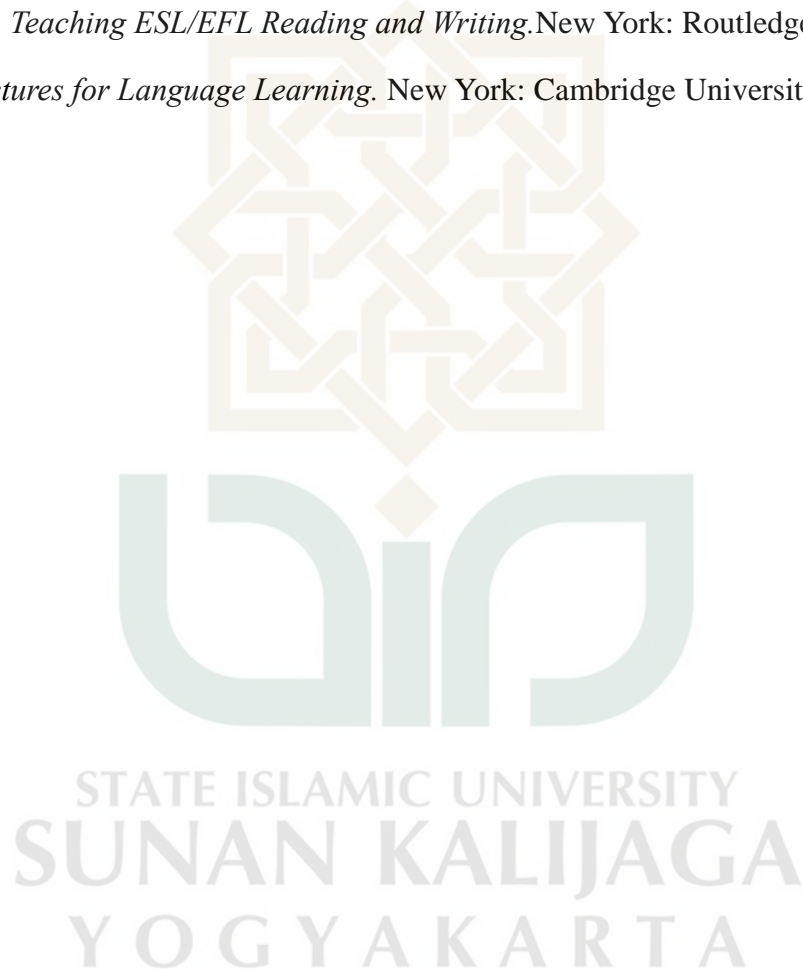
Kandiuk, M. 2011. *Digital Images in Teaching and Learning at York University: Are the Libraries Meeting the Needs of Faculty Members in Fine Arts*. York University Libraries.

McNiff, J., and Whitehead, J. 2006. *All You Need to Know about Action Research: An Introduction*. London: Sage Publications, Ltd.

Miles, M.B., and Huberman, A.M. 1994. *An Expanded Sourcebook: Qualitative Data Analysis* (2nd Ed.). London: Sage Publications, Ltd.

Nation, I. S. P. 2009. *Teaching ESL/EFL Reading and Writing*. New York: Routledge.

Wright, A. 1989. *Pictures for Language Learning*. New York: Cambridge University Press.





## DEVELOPING A PROCESS-BASED IN SCIENCE LEARNING THROUGH PROBLEM BASED LEARNING TO WELCOME THE IMPLEMENTATION OF CURRICULUM 2013

Runtut Prih Utami  
(Prodi Pendidikan Biologi, UIN Sunan Kalijaga, Yogyakarta)  
E-mail : runtutfalihah\_bioedu@yahoo.co.id

---

### ABSTRACT

Science learning essentially consists of the process aspect, product, and attitude. Nowadays, science learning tends to emphasize the only process aspect. Generally, teachers teach science concepts as transfer of knowledge and lack of activity involving students in the science learning process. Consequently, science learning solely sharpens the remembering and understanding aspects which are a low order of thinking. These conditions give less opportunity for students to construct knowledge from their learning experiences. Therefore, the reform of learning science from low order of thinking into higher order thinking needs to be done. One of the reform in science learnings that leads to higher order thinking is applying process-based in science learning. One of the alternative ways to realize the science learning that emphasizes the scientific process aspects and inquiry can be done with the Problem-Based Learning (PBL). PBL is not designed to help teachers convey as much as information to the students. It is designed primarily to assist students in developing thinking skills, problem solving and intellectual skills; to learn about a variety of adult roles by involving students in real or simulated experiences, and to create autonomous and independent learners.

**Keywords:** *process-based in science learning, problem-based learning*

### A. PREFACE

Education has a considerable contribution to the intellectual life of the nation and qualified human resources preparation. Therefore, reform in education should always be done to improve the quality of education. The quality of a nation can be identified from the quality of education. History shows a good nation has a good education. Indonesia as a developing country must work hard to improve the quality of education to be more superior and competitive in globalization era.

In the context of educational reform, there are three main issues that need to be highlighted, namely the renewal of the curriculum, improving the teaching quality and learning effectiveness. Education curriculum should be comprehensive and responsive to social dynamics, relevant, do not overload, and accommodate the diversity of needs and technological advances. The quality of learning should be enhanced to improve the quality of educational outcomes. Specifically, it should be found a strategy or approach for effective learning in the classroom and empowering students potential. They are the focus of education reform in Indonesia (Nurhadi Senduk and Gerrard, 2003).

Renewal and improvement of the quality of education in Indonesia are done continually.

Government, through regulation no.19 of 2005 on National Education Standards, improves education in Indonesia to meet national education quality. In the national education standards there are eight standards that must be realized, i.e. content, process, competency, teachers and educators, facilities and infrastructure, management, financial, and assessment. They serve as a basis for planning, implementation, and monitoring of education in order to realize the quality of national education.

First and urgent step to realize the educational standards is realization standards of quality processes in science learning. Essentially, learning science consists of process, product, and attitude aspects. Nowadays, learning science tends to emphasize the process aspects. Generally, teachers teach science concepts as transfer of knowledge and lack of activity involving students in the science learning process. Consequently, science learning solely sharpens the remembering and understanding aspects which are a low order of thinking. These conditions give less opportunity for students to construct knowledge from their learning experiences. Therefore, the reform of learning science from low order of thinking into higher order thinking needs to be done. One of the ways is applying process-based in science learning.

## **B. DEVELOPING A PROCESS-BASED LEARNING IN SCIENCE**

According to Gagne, learning is a process which enables organisms change their behavior due to experiences. Learning is a set of cognitive processes that change the nature of stimulation from the environment into a number of stages of information processing required to acquire new capabilities (Gagne and Margaret E. Bell Briggs in Gredler, 1994). The capabilities include intellectual skill, cognitive strategies, verbal information, attitudes and motor skills. These can be predicted as a result of learning. Those kinds of learning capabilities describe different actions or performance.

It can be concluded that learning is a process of change in a person's behavior due to experience in order to acquire the knowledge, skills and abilities gained from the process of cognitive and environmental stimuli. In order for learning outcomes as expected, the learning process should be effective.

Learning how to teach is a valuable educational activity. Educative value colors teachers and students interaction. Educative interaction occurs because the learning activities are carried out to achieve certain goals that have been formulated before (Syaiful, 1995). To achieve teaching objectives or competencies that have determined need the right classroom management.

A Good classroom management generates good teaching and learning interactions as well. Learning is a complex process, so it needs the right strategy in teaching to understand the characteristics of students. Student is a unique individual, so that not only cognitive aspects need to be developed, but also affective and psychomotor ones.

Wahidin (2006:9) states that in learning process students should not only have the scientific aspects, but also the skills and attitudes that can be used to solve problems in their life. This is relevant to the four pillars of UNESCO for education, i.e learning to know, learning to do, learning to be, and learning to live together.

Science learning activities can't be separated from a variety of constraints. Hopes that never fade away and always demanded is complete understanding of students in lessons that teachers delivered. But, how to realize an active and interesting learning is still a problem. To overcome these problems require innovative learning.

Innovation in the classroom needs to be done to realize the active, creative, attractive, and

effective learning. Therefore teaching paradigm of teacher must be changed, namely:

- From teacher centered into learner centered
- From competency-based learning into content-based learning
- From the product of learning into a process of learning
- From the summative evaluation into formative evaluation.

From that explanation, it can be concluded that process aspects need to get attention in learning process. Teachers should not only transfer knowledge to students, but also involve students' activities on how to construct or build the knowledge through the experience of learning.

Process based learning is a necessity to develop learning activities. Students must be trained how to construct knowledge and make it be more meaningful and stored in long term memory. This is in line with the opinion of Thomas M. Duffy and David H. Jonassen (1992), "Learning is active. Learning is an active process in which meaning is developed on the basis of experience".

In the view of constructivism, a human constructs or creates knowledge by trying to give meaning to the knowledge itself as appropriate experiences. That knowledge is a human construction and human gets new experiences constantly, so that is not stable. The understanding will be deeper and stronger after tested through new experiences. In this case the students need to be taught to solve problems, find useful things, and express ideas that are useful for them.

Process-based science learning helps students store knowledge in long-term memory. Involving actively in learning process, students will get understanding easier. This is in line with the theory of information processing by Seifelt & Hufnung (1994) in Desmita (2005) shown in Figure 1.

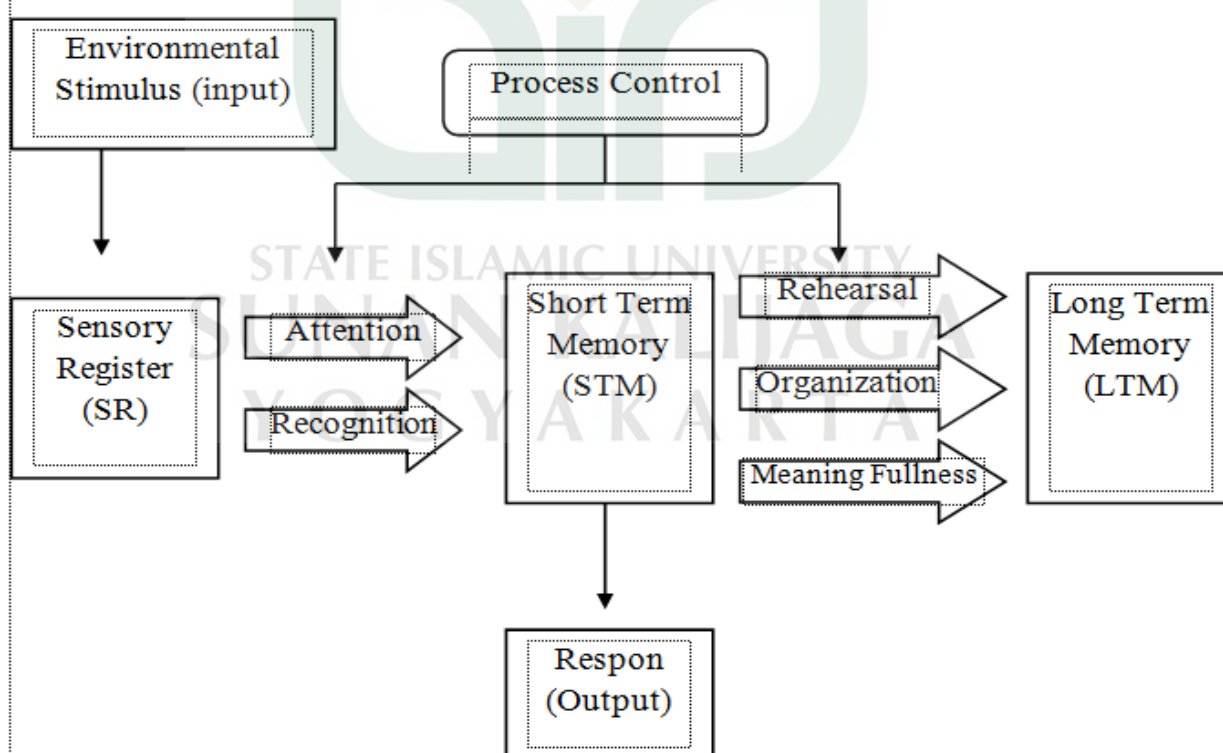


Figure 1. Cognition Model of Information Processing Theory  
(Adapted from Seifelt & Hufnung, 1994)

From the information processing model, there are several main components: an environmental stimulus (input) Sensory Register (SR), Short Term Memory (STM), Long Term Memory (LTM) and response (output). When a student receives lessons (information) from the teacher (Environmental stimuli/input) through the senses, it will be stored temporarily in the Sensory Register (SR), a first storage memory. Sensory Registers record the information as what is received initially, but the information will disappear or not appear in two small sections. Information which gets special attention, such as demonstrations, observation, interesting and innovative learning media will be transferred to Short Term Memory (STM), the second storage memory, but the ability of STM accommodate only limited information, so that there is some information lost, the information can be captured then moves to the LTM, as a third storage memory. Information stored will be more permanent in LTM because it has an unlimited capacity, which can be invoked any time.

With the concept of process-based in science learning, it is expected to be a meaningful learning. Students are actively involved in knowledge construction and their thinking skills are more honed.

### **C. A PROCESS-BASED LEARNING IMPLEMENTATION THROUGH PROBLEM BASED LEARNING TO WELCOME THE IMPLEMENTATION OF CURRICULUM 2013**

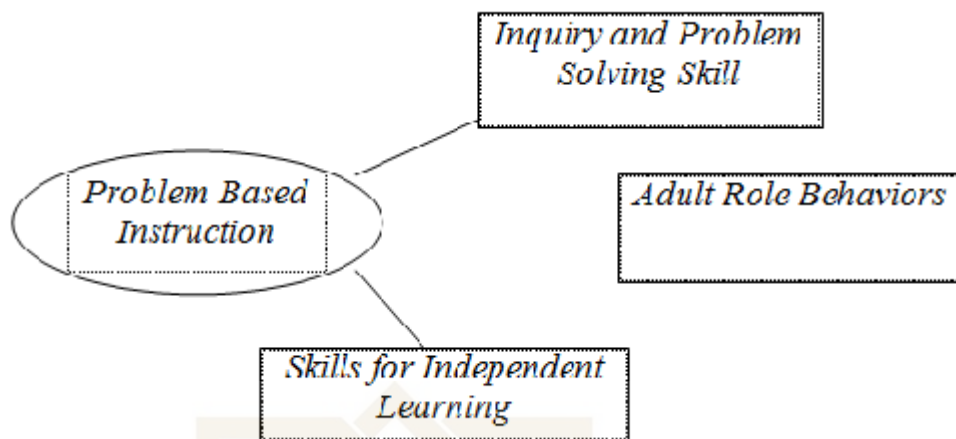
Science learning in curriculum 2013 is more emphasis on inquiry and scientific approach. One of alternative ways realizing the science learning that emphasizes the aspects of the scientific process and inquiry can be done through problem based learning.

Problem-Based Learning (PBL) is a learning model that is oriented towards problem solving developed from John Dewey's theory. To be able to solve the problem is required thinking process. Arends (1997:156) states that "Problem based learning is used in promoting higher-level thinking in problem oriented situations, including learning how to learn". According to Arends, Problem-based learning is a learning model that is used to increase the level of thinking oriented towards problems, including learning how to learn.

Nurhadi and Agus Gerrard Senduk (200:55) argues that "The Problem-Based Learning (PBL) is a teaching approach that uses real-world problems for students to learn about critical thinking and problem solving skills and to acquire the knowledge and the essential concepts of the subject matter". In PBL learning, students are required to be more active (student center), able to think critically, and solve problems. Teachers only present the issues, ask questions, facilitate the investigation, and do dialogue. Nevertheless, PBL teaching can't be implemented without developing a classroom environment that allows the exchange of ideas openly by teachers. Generally, Problem-Based Learning (PBL) presents to students authentic and meaningful problems that provide convenience to the students to conduct the investigation and discovery.

PBL is not designed to help teachers convey as much as information to the students. It is designed primarily to assist students in developing thinking skills, problem solving and intellectual skills; to learn about a variety of adult roles by involving students in real or simulated experiences, and to create autonomous and independent learners. According to Arends (2001:350), an illustration purposes PBL shows in the image below:





**Figure 2. Learner Outcomes for Problem-Based Instruction**

There are 5 special characteristics of problem-based instruction or problem-based learning (Krajcik, et al, 1994; Slavin, et al, 1992, in Arends, 1997:157): (1) Driving question or problems, (2) Interdisciplinary focus, (3) Authentic investigation, (4) Production of artifacts and exhibit, and (5) Collaboration.

PBL characteristics can be described in detail in the following description: Driving question or problems, PBL organizes around the questions or issues that are important socially and personally rather than on a certain academic principles. PBL is addressed to the real situation, avoids simple answers, in which there is a wide range of solutions with a variety of interests.

Interdisciplinary focus, PBL is selected on issues involving multiple disciplines, such as pollution problems due to the use of fertilizers by farmers which will involve biological, economic, social, tourism and government.

Authentic investigation, PBL requires following authentic investigation and looking for a real solution of real problems. Students must analyze and define problems, develop hypotheses and make predictions, collect and analyze information, do an experiment (if necessary), and make conclusions.

Production of artifacts and exhibit, in the PBL students are required to construct a product in an artifact and exhibit that explains or shows the solution. Product could be a report, a physical model, or a computer program. This product was prepared by the students to be demonstrated to the others.

Collaboration, like the cooperative model, PBL is characterized by working with other people, in pairs or small groups. It occur the development of thinking and social skills.

Implementation of Problem Based Instruction (PBL) follows these phases (Arends, 2001:362):

**Table 1. Phase (syntax) Problem Based Learning**

Phases	Teacher activities
Phase 1: Orienting the issues to students	Teachers explain purposes of learning and all that needs to prepare, motivate the students to choose their own problem solving activities.
Phase 2: Organizing students to learn	Teachers help students determine and organize learning tasks related to the problem.
Phase 3: Guiding independent and group inquiry	Teachers encourage students to collect appropriate information, to conduct experiments and to seek explanations and solutions
Phase 4: Developing and presenting the artifacts and exhibits	Teachers guide students in planning and making a worthy artifact such as reports, videos, models, and help them work with other friends.
Phase 5: Analyzing and evaluating the process of problem solving	Teachers assist students in reflecting the investigation and the processes they use.

From that explanation, it shows that the students have the opportunity to engage actively in the learning process. Therefore, Problem-based learning (PBL) could be an alternative way for science teachers to develop students' skills to higher order thinking.

#### **D. CONCLUSION**

Innovation in learning needs to be done to improve the quality of education. Process based learning is an active learning oriented on engaging students actively in constructing knowledge from a series of learning experiences. A process-based learning will make learning will not just be learning or transfer knowledge. It will make learning process be more meaningful. This implementation will ultimately enhance student competence, so it will contribute to the achievement of process standards and national education standards.

## E. REFERENCES

- Arends, Richard I. 1997. *Classroom Instruction And Management*. New York: Mc.Graw-Hill.
- Arends, Richard I. 2001. *Learning to Teach (Fifth Edition)*. New York: Mc.Graw-Hill.
- Duffy, Thomas. M and Jonassen, David. H. (1992). *Constructivism and the Technology of Instruction (A Conversation)*. New Jersey : Lawrence Erlbaum Associates Publisher.
- Margaret, Bell. E. (1994). *Belajar dan Membelajarkan*. Jakarta: PT. Raja Grafindo Persada.
- Peraturan Pemerintah No.19 tahun 2005 tentang Standar Nasional Pendidikan.
- Wahidin. 2006. *Metode Pendidikan IPA*. Bandung: Sangga Buana Bandung.
- Senduk A.G dan Nurhadi. 2003. *Pembelajaran Kontekstual dan Penerapannya Dalam KBK*. Malang: Universitas Negeri Malang Press.
- Desmita. 2005. *Psikologi Perkembangan*. Bandung: PT. Remaja Rosdakarya.
- Djamarah, Syaiful B dan Zain A. 1995. *Strategi Belajar Mengajar*. Jakarta : Rineka Cipta.



STATE ISLAMIC UNIVERSITY  
SUNAN KALIJAGA  
YOGYAKARTA



## MULTIPLE INTELEGENCY KEY TO SUCCESS FUTURE CHILD PRELIMINARY

By:  
Sari Hernawati, S.Ag., M.Pd<sup>1</sup>

---

### ABSTRACT

The condition of the Indonesian nation after the Reformation, there was a massive change in the order of all aspects of life, both from the aspect of economy, politics and culture. These changes resulted in the Indonesian culture which began to shifted toward the pragmatic, hedonist and a liberal. All of which will impact on the morals and manners of the citizen began to shrink it rushes after materealis.

Education directed at how to create staffs are ready to fill in the spaces that are increasingly more competitive employment, which in the end values of moral education from neglected. The students, with all its potential is not developed to its full potential according to talent and intelligence, therefore the very essence of sublime values education is getting washed out. The condition of the Indonesian nation after the Reformation, there was a massive change in the order of all aspects of life, both from the aspect of economy, politics and culture. These changes resulted in the Indonesian culture which began to shifted toward the pragmatic, hedonist and a liberal. All of which will impact on the morals and manners of the citizen began to shrink it rushes after materealis.

A person's success in life is not enough to just set by the intellectual intelligence alone. Or in other words intellectually intelligent people not yet guarantee to be able to face any challenge and issues as well as the dynamics of a very complex life. One of them was Howard Gardner (1983) which offer what he named multiple intelligences (multiple intelligences). Education directed at how to create staffs are ready to fill in the spaces that are increasingly more competitive employment, which in the end values of moral education from neglected. The students, with all its potential is not developed to its full potential according to talent and intelligence, therefore the very essence of sublime values education is getting washed out. The condition of the Indonesian nation after the Reformation, there was a massive change in the order of all aspects of life, both from the aspect of economy, politics and culture. The intelligence of this compound will have a very powerful force, when maximized to form the students ' intelligence to ft the talents and interests of students. Students will develop with the force that exists in potential himself, so the educators in charge of guiding and directing students to achieve maximum potential in order to achieve the manners of noble. Success in life one doesn't quite simply determined by the intellectual intelligence alone. Or in other words intellectually intelligent people not yet guarantee to be able to face any challenge and issues as well as the dynamics of a very complex life. One of them was Howard Gardner (1983) which offer what he named multiple intelligences (multiple intelligences).

The intelligence of this compound will have a very powerful force, when maximized to form the students ' intelligence to ft the talents and interests of students. Students will develop with the

---

<sup>1</sup> Wahid Hasyim University, Semarang.

force that exists in potential himself, so the educators in charge of guiding and directing students to achieve maximum potential in order to achieve a sublime character.

## A. Background

The value of morals, morals and a sublime for all citizens may not need to be challenged. A country or a nation could collapse because some people behave officials and unscrupulous. Unscrupulous behavior will bring up the riots, not serve Inari, perversion and others which led to the destruction of a people. They do not have a handle in the life of a country and nation. Therefore, the values need to be taught in order for the current generation and future are able to behave in accordance with the expected moral. The intelligence of this compound will have a very powerful force, when maximized to form the students ' intelligence to ft the talents and interests of students. Students will develop with the force that exists in potential himself, so the educators in charge of guiding and directing students to achieve maximum potential in order to achieve the manners of sublime to success in life one is not enough.

Attainment of the immoral, Indonesia human character, noble character and lofty ethical goal of human development is Indonesia which are then implemented into the national education goals. Indonesia is fully human is a human who has manners. Manners are a mix of results ratio and taste which manifests in human behavior and intention. Character meaning good behavior, wise and humane. Background of the important the value of morals, morals and a noble for all citizens may not need to be challenged. A country or a nation could collapse because some people behave officials and unscrupulous. Unscrupulous behavior will bring up the riots, not serve Inari, perversion and others which led to the destruction of a people. They do not have a handle in the life of a country and nation. Therefore, the values need to be taught in order for the current generation and future capable Council.

Education is a very important thing for kids or acquired adult. Education became one of the capital for a person in order to be successful and able to succeed him. Through the educational potential of children as well as adults can be developed, because essentially every student has the potential and characteristics of intelligence itself. The potential of living become potential, will not be useful if not developed. Potential student who has developed and has become the ability to face the question of life, that's called intelligence. Attainment of the immoral, Indonesia human character, noble character and lofty ethical goal of human development is Indonesia which are then implemented into the national education goals. Indonesia is fully human is a human who has manners. Manners are a mix of results ratio and taste which manifests in human behavior and intention.

Potential students are not maximized through education that will be experienced by the children of the nation will cause human resources wasted. The nation's resources and will be the country that useless as it will only damage the order of development capital is citizens themselves, hence this article will elaborate on the importance of education to maximize the intelligence compound in education. That will determine whether or not the excellence of the superior resources of a nation in charge of life. Education is a very important thing for kids or acquired adult. Education became one of the capital for a person in order to be successful and able to succeed him. Through the educational potential of children as well as adults can be developed, because essentially every student has the potential and characteristics of intelligence itself. The potential of living become potential, will not be useful if not developed. Potential students who have developed.

## B. Discussion

### 1. Develop intelligence compound

The success of someone in life is not enough just determined by artificial intellectual course. Or in other words a smart man in an intellectual manner not guarantee to be able to face all challenge and controversies as well as the dynamics of life are extremely complex. One of them is Howard Gardner (1983) that offers what a called of multiple intelligences (intelligence compound). He criticized way of measuring one's intelligence only in terms of intellectual course. He noted that the success of someone determined by some intelligence. In his book the frame of mind: the theory of multiple intelligences says that there are eight different types of intelligence, namely intelligence linguistics mathematically-logical, spatial, corporeal-kinesthetic manner, musical interpersonal, intrapersonal and naturalist (Efendi, 2005: 135-160).

Gardner said that intelligence is a series of skills ( a set of skills ) in problem solving a someone able to break back problems he faced, or difficulties are creating products effective and shall include potential discover or solving a problem (Efendi, 2005: 93). Briefly to be said that intelligence is capability of someone to be able to face all the problem and challenge life with setting (the idea of) that different. Intelligence linguistics is the ability to use a word effectively, either spoken and written. Besides intelligence is also includes ability to manipulate, the structure of a language phonology or sound of language, semantic, or of language meaning a pragmatic dimension or practical use language, rote, eksplanasi and metalanguge. Intelligence of mathematically-logical is the ability to use the points with good and doing correct reasoning. Intelligence is also includes sensibility in a pattern and a logical relation.

Intelligence of mathematically-logical is the ability to use the points with good and doing correct reasoning. Intelligence is also included in a pattern of sensitivity, and a logical relation a statement and a postulate, the function of logic and ability of abstract. Intelligence is capability spatial expressing the world spacial-visual of accurately and the ability to transform the perception of the spatial-visual meant in all aspects of life. Besides intelligence is also includes sensitivity to color, a line, the shape and the relationship between the elements of explanation and metalanguage. Intelligence of mathematically-logical is the ability to use the points with good and doing correct reasoning. Intelligence is also includes sensibility in a pattern and a logical relation

The ability to imagine, presented an idea visually or spatial, and orienting themselves in spatial matrik practices accurately. Intelligence of physical-kinestatik is using the whole body of expertise to express ideas and feelings, skill use of the hands to create something, and physical performance specif, such as: power, pliability; the speed and those things which pertain to the touch. Intelligence is capability of musicals appreciate the lands of a musical form, distinguishing, composes and to expressing. Intelligence is also includes sensitivity to rhythm, a pattern of tone or melody, and color tinge or shade of the sound of a song.

Intelligence intrapersonal is the ability understand yourself and acted on the understanding. Besides intelligence is also includes the awareness of mood, mean, motivation, temperament, desires, discipline themselves, and the ability to appreciate self. Intelligence naturalist is the ability to recognize and categorizing species of fora and fauna in an environment around. Intelligence is also includes sensitivity to other natural phenomena, and the ability to discern objects not live with objects of other living. Gardner said that any person to achieve success in life living must have some intelligence. It does not mean should be all (8 intelligence) is on a person. Perhaps 2-4 intelligence, but one that stands out.

Later in his invention of the next, he is still add more one intelligence that is the existential



(Suparno, intelligence et.al, 2002: 46). The concept of intelligence compound is a concept that uninspiring and challenge to become study theoretical or the implementation of emperical in the world of education and teaching.

Develop intelligence compound child is the major key to the success of future children. As an old man the present time we often pressing for a child with high achievement in academic in school become a champion. Develop intelligence compound child is the major key to the success of future children. The role of an old man in giving training and environmentalists who support is far more important in making intelligence a child.

The success of future front of the kids nation will be a source of power, the state of being superior because intelligence compound will require tough personal the son to have life in the face of challenges that big ego and pragmatic. Life being balanced is to be formed on the self children nation through the ability to optimize the use, intelligence compound with compound of intellegence will bring into a personal success. With personal success will make a person ' s executive whose success as well.

John Wareham (1992), said there were 10 years and basic element to become executive whose success as follows: 1. The ability to display a charm self proper. 2. The ability to manage energy self good. 3. The clarity and health value system personal and contracts inner. 4. Clarity of life target is expressed or implied 5. Intelligence that adequate (in the sense of reasoning) 6. The habit of good working. 7. Skill between humans good. 8. Capability of adaptation and maturity emotional. 9. Patterns of personality which precise with demands work. 10. Conformity stage and direction of expectatian of life style.

Dale Carnegie (1889-1955), don't even mention intelligence explicitly (in a general sense) as element of success he said that to succeed needed 10 (ten quality) is: 1. Confdence based on self-concept a healthy, 2. Skill communicate good 3. The skill of a good, between humans 4. The ability to govern themselves and others, 5. Attitude toward the person, positive test and the self, work 6. Skill sell the idea, and the idea 7. The ability to recall good 8. The ability to solve the problems, stress and feeze, 9. Enthusiasm ferce and 10. Insight living broad.

So it is obvious that intelligence, which is usually measured by a scale iq, is not a single element or ticket to success. John wareham, conclude of the above and when she was interviewed tens of thousands of would-be executive and supplies thousands of executive to a lot of company in its role as "head hunter". So also Dale Carnegie arrived at the conclusion after he interviewed many ffigure successful contemporary at the time and after reading thousands of a biography and his autobiographical the success of all sorts of the feld of life.

## **2. Implication intelligence Compound in Manners**

The challenge different lives on each individual, requiring mentally tough, intellectual adequate, and strength spiritual agency, high the intellectual ability, spiritual man and emotional balanced will create human really tough. Readiness of man be able to stand in life the era of hedonism, materialism requires of strong behavior. So human need the manners, because the manners of this is needed, containing the meaning of good behavior wise, and humane. The manners of was supported by the power of spiritual man that is, the ratio, taste, and intention which eventually came into behavior that can be measured and becomes a reality in life.

Education is a very important thing to be procured children or adults. Education became one of capital for someone so as to be successful and able to achieve success in her life. Remember



the importance of education and the government must be articulated programs of compulsory nine years. To change our curriculum and to try to accommodate the needs of the students.

Intelligence intellectual not only includes intelligence logic and verbs, but also to be seen of the aspect of kinetic, musical, visual-spatial, interpersonal, intrapersonal, and naturalist.

We tend to only respect a person who is expert in the ability of logic and language. We need to give attention being balanced against people who are having talents (a) in the intelligence that others. See how important the learning process for humans, despite few or many role of teacher is very important. The teacher as figures of personal, human of “monopluralis” having many weakness and excess. However, weakness possessed a teacher should not block of for a learning process itself.

Considering man is a human of “monopluralism”, the man having many sides natures (plural), but, it is one unified whole. If viewed from his place, the arrangement of, and by its very nature, human nature is “monodualis”.

As creatures of the lord and as creatures of individual comprising the soul and body. The teacher in the process of learning also be looking at students as creatures of “monopluralis”. Thus then all potentials owned by students can thrive with optimal. dan all potential they shall inherit it can be used to humanize human in the process of learning.

## **C. Cover Conclusion**

### **1. Drawing Conclusions**

The state requires a source of human resources development, who excels in filling superior human resource determined by a citizen who has intelligence and magnanimity a noble mind. Intelligence a child not only determined by artifice intellectual, or intelligence in mathematical.

Human born with talent and bring interest diverse, therefore it is not fair when as parents and educator, society demanding someone to have uniformity in intelligence monoton, therefore intelligence compounded of optimized will form of private men it as a person who has the manners which is sublime and independently. Required by the nation to embody nation prosperous and dignified.

### **2. Suggestions And Recommendations**

In giving of learning, we can use the framework of intelligence compound in carrying out the process of teaching widely. Activity that can be done as drawing, created the song, listening to music, and saw the can into the entrance of a vital into the learning process. Even students who his less good at learning process using patterns of traditional (emphasizing language and logic). If this activity performed would bring them to the spirit of them to learn.

With wit compound, then we will provide an opportunity for a student to study in accordance with their needs, interest, and his talent. The role of the old man and society will increase in support of learning process. This could happen because every activity students in learning process will involve a member of society. Students will be able to show and to be share about excess. Build excess that they will give a motivation to make students as a specialist.

By the time you teach to understand students will get learning experience a positive and improve its ability to find a solution in solving the problem that it faces. Intelligence compound give the view that there are nine kinds of intelligence that is shared by everyone. That differentiates between one to the other is a composition or domination of intelligence.

**REFERENCES**

Dryden Gordon dan Vos Jeannette, 1999, *The Learning Revolution*, Selandia Baru: The Learning Web, Penyunting: Ahmat Baiquini, 2003, Bandung: P.T. Mizan Pustaka.

Efendi Agus, 2005, *Revolusi Kecerdasan*, Bandung: Alfabeta.

Suparno Paul (et. al), 2002, *Reformasi Pendidikan Sebuah Rekomendasi*, Yogyakarta: Kanisius.

Wenger Win, 2000, *Beyond Teaching and Learning*, Project Renaissance.

Gaithersburg, diterjemahkan oleh Ria Sirait dan Purwanto, Bandung: Yayasan Nuansa Cendekia.



## DEVELOPING STUDENT'S ADVERSITY QUOTIENT (AQ) THROUGH INSPIRATIONAL STORIES

By: Sri Sumarni  
Major of Islamic Education  
The Faculty of Tarbiyah Science and Education  
STATE ISLAMIC UNIVERSITY SUNAN KALIJAGA

=====

### Abstract

Adversity Quotient (AQ) is the intelligence in struggling to overcome difficulties. A climber type student has a high AQ. This type of student is persevere, tenacious and tough in facing difficulties. They always strive to find the way out when facing difficulties. They never let anything get in their way to their dreams, that is why AQ is really needed in learning process, whether it is at home or at school. With that said, student's Adversity Quotient needs to be cultivated continuously and to be applied in any learning, i.e through inspirational stories that touch and awaken student's conscience to be able to change and improve. With their imagination and high ability to imitate, school children will easily copy the struggling of children around the world. The stories may be taken from many sources, such as stories of great people who went through hardships during their childhood, like Rasulullah SAW and his friends, story of the president of South Korea, president of South Africa and other stories of children who became heroes to their families and friends.

**Keywords:** *Adversity Quotient, Quitter, Camper, Climber, and inspirational stories*

### A. Introduction

The ranking system applied to students is good in a way, to develop their spirit of competition, but on the other side is deflated when the ranking was only based on student's cognitive skills and ignores other aspects (like psychomotor and affective skills). Moreover, ranking system could have a potential to create a level gap in class, a proud for those achieving first rank, second or third, and made student whose position was at the bottom feels inconfident. Ranking system could also drives students to do whatever it takes (by cheating) for them to achieve the top rank (Sudarman, 2012).

The fact is, there are many parents still hold that achievement and intelligence of their children were laid only on written test, especially for certain subject; like science and math. Parents get disappointed in an instant when their children got unexpectedly low scores on those two subjects even if scores on other subjects or morals were fine. As did parents when their children got high scores on those two subject, while underestimating other subjects or moral values. There are even parents who force their children to take major science class eventhough their children obviously were not qualified enough for that. Most of the reason they do it was no other than for the sake of dignity.

It would be better if every single students and parents were given the representation of each children's achievements or ability as mentioned in the theory of multiple intelligence by Howard

Gardner. It is said that being clever/smart is not only happened when children shine for math and science subjects. There are many intelligences every students have (for example, mathematics, literatures, science, musics, interpersonal intelligence, kinesthetics, spatial, et cetera). A student may be good in math but they should be noticed that they have other abilities and intelligences that their friends do not have, for example kinesthetic or intrapersonal intelligence. It could be a better thing because it develops confidence in students as well as parents.

Something author think was important is how a teacher is able to engraft values and skill for students to face the reality in life. In other words, it is how students could develop their intelligence in overcoming every problems they were facing in life, in order to be an independent person and able to survive in all kind of situations and conditions. It means that real experiences are more useful than just mastery of strict theories attached to students, which in author's opinion relevance is very far from the real life. Thus, simulation, role playing, problem solving, brain storming and inspirational story telling related to reality these days, in author's opinion, are more helpful than constraining students to answer closed questions with textual answers from books they read, that only rely on student's memory.

This fact at the same time shows that intelligence can be contextual. The problem students facing or the context are important factors when considering to put citation of intelligence. As Stoltz (2000) said, it is not only IQ or EQ that determine one's success, but another one factor which has incredible influence to one's success, that is intelligence in overcoming a trouble also known as adversity quotient (AQ). AQ can be improved, hence student with low AQ may improve to be one with higher AQ.

Someone whose AQ is high would not give up easily in facing a challenge. They are the philosopher as well as warrior who always consider and fight for every possibilities, also they would never let anything get in their way to their dreams. Student with AQ never give up hopes in going through education, including in working on assignments given by their teachers. This potential, of course, will be very useful when applied at school. The problem is how to integrate the AQ to learning process. This paper tries to integrate AQ to learning. Integrating AQ to learning in this case is not in the form of learning model development, but at the level of concept study.

## **B. Definiton of Adversity Quotient**

*Adversity Quotient* (AQ) is an intelligence in facing difficulties (Stoltz, 2000). There are other widely used terms that are similar to that, such as AQ is the potential to be persistent (Subiyanto, 2006), AQ is them mental reliability (Laksmono, 2006), and AQ is the intelligence of being tough (Effendi, 2005). Assad (2012) stated that AQ is an intelligence gained by people after having difficulty and misery of life. As Stoltz (2000) claimed, htere are three forms of AQ: (1) AQ is a new conceptual frame to understand and improve all features of success, (2) AQ is a measure to know one's respond to handle difficulties, (3) AQ is a series of tools which have sciential basic to improve people's respond on difficulties. Moreover Stoltz (2000) stated that AQ may predict these features: outcome, motivation, empowerment, creativity, happiness, vitality and excitement, emotional health, physical health, diligence, productivity, knowledge, energy, hope, endurance, behavior, long life and respond to change.

A kid with high adversity intelligence is able to process information from their surroundings effectively, thus they face challenges easily and creatively in finding various alternatives of solutions, managing their behaviour properly, able to protect themselves from any bad influences, and learning from their experiences.



Most of the time, children are friendly and be familiar with their environment easily. They also creative, innovative, confident and hold strong motivation. They are able to find positive source of happiness, believe in their skills to overcome various challenges and obstacles, also having high fighting spirits and never give up. These children usually appear as healthy children, rarely fell ill, rarely have indigestion, do not experience insomnia, and do not have behavioral disorder like biting nails, pulling hair, being angry or sobbing for no reason, fussy, anti social, et cetera.

Children whose adversity intelligence are fine would not stressed easily, that the adrenalin produced in proper amount. Children who stressed easily will experience hormonal disorder, running out of vitamin and minerals, weakened immune system, hence will be easily fell ill.

One's success in work and life is highly influenced by AQ. People with high AQ would not blame other party for trouble they are facing but being responsible to fix the problem. They do not easily complain nor despair even in the worst condition. On the contrary, with all their limitations, they are capable to think, act and make strategies to move on. Otherwise, low AQ means dullness of life durability. One with low AQ complains all day when going through hardships and unable to see wisdom inside the problem they are facing.

Stoltz (2000) described this life as like climbing a mountain. When someone reach the top of the mountain, it means that they has overcome trouble. The term "mountain climbing" in the context of education means: passing an exam, achieve high scores on certain subjects, be a winner at some championship, mastering certain subject, being a leader in school organization, gaining scholarship, et cetera.

### C. Components of Adversity Quotient

Four main component of AQ according to Stolz (2000) known as CO2RE consists of C = Control, O2 = Origin and Ownership, R = Reach, and E = Endurance. These four components really influence someone's success, because they may form one's mindset, which is how to see this life.

*Control* asks how much (strength) someone has over some event that cause hardships. The higher score in C dimension, the bigger possibility for someone to have a strong control over a problem which is met. On the contrary, the lower score in C dimension, the bigger possibility a person felt that the trouble was out of control. Stolz (2000) proposed the tendency of people whose score is low in C dimension. For example: that is beyond my reach, there is nothing I can do, and it is impossible for you to fight, because they are board members. Furthermore, Stolz (2000) proposed some examples of expressions by people with high AQ: wow, this is hard, but I have seen harder, there must be something I can do, there is always a way, brave people will win, and I should find another way.

*Origin and Ownership* asks the origin of hardship and how far a person admit that hardship they are facing. The origin and ownership component known as O2. The higher O2 score the bigger possibility someone see that success was always there and main cause came from the outside. On the contrary, the lower O2 score, the bigger possibility of someone thought that the cause was themselves. When they make an achievement, they will think that the success came from luck which is caused by other people or factors.

According to Stolz (2000), those whose origin score is low tend to think: (a) it was all my fault; (b) I am really stupid; (c) I should have known that; (d) What was I thinking?; (e) I do not understand; (f) I have mess up everything; and (g) I am such a failure. Furthermore Stolz (2000)

proposed that people whose origin respon is high will think: (a) It was not the right time; (b) the whole industri is in pain; (c) everyone is having hard days lately, he/she is just not in a good mood; (d) some of team members did not contribute; (e) my kid was ill and I should stay up late to take care of him/her; (f) no one could predict this; (g) there are some factors in it; (h) the whole team members disappoint ore hopes; (i) after all consideration I knew I should not take this job or program.

*Reach* asks how far the hardship will reach other aspects of one's life. Low AQ will let the hardship seeps to other sides of someone's life. Meeting that did not go well will screw all activities on that day; conflict may ruin a relationship; negative assessment of outcome will slow down one's career, that will then cause a fnancial panic, sleep disorder, bitter, stay out of people, and bad decision making. The lower reach component score the bigger possibility of someone consider bad things happened as disaster and let it escalate. Of course this will hamper the way to success, and the worst is it is very dangerous because it will make damage when uncontrolled. Conversely, the higher one's R component score, the bigger possibility for people to limit problem's reach on the event they are facing.

*Endurance* asks two related things: how long the hardship will go and how long the cause will last. The lower a person's E score, the bigger possibility to consider that hardship and the cause will last long, or even forever. For example, frustated people commit suicide or get depressed. The higher E score, the bigger possibility to see a success as something that will last long, or even permanently. This kind of people consider a problem and its cause as something temporary, will be gone in a fash and seem to never be happened again. This will improve one's energy, optimism, and the change to act. These people is used to think positively, be grateful of what they have, having a good life, love to socialize, caring, and full of spirit.

#### D. Types of Adversity Quotient

Stoltz (2000) proposed three types of AQ: *quitter* (low AQ), *camper* (medium AQ) and *climber* (high AQ). A quitter is someone who tries to get away of problem. Some characteristics of quitter are: minimum effort, backing off when seeing diffculties, and afraid to face their problems. They give up their dreams and take paths that are smooth and easier for them. They are tend to be cynical, gloomy and cold-hearted, or being grumpy and frustated, blaming people around them and hating people who strive to move forward. Quitters are also often became alcoholic, and drugs addicts. They seek escapement to fnd peace for their heart and mind, they run away from the effort to improve, which also means that they are ignoring potentials they have in this life. Quitters are those who think that math is complicated, hard, confusing, and such a pain. They are low motivated, thus giving up once they found some diffculties at fnding solution on math problems and stop without any effort.

A *champer* type is a kind who do not take big risks and satisfed only with what they have or the condition of they are now. They often ignore possibilities they are going to get. This kind of people satisfed easily or feels okay just being at the middle. Champer ones feels good enough with their own illusion of what has been there, and sacrifice the possibility to see or experience something that probably be happened. They do not maximize their effort even if there is a chance and opportunity. There is no effort to study harder. When studying mathematics, champer students do not study as best as they can, they just study. They think high score is not necessary as long as they passed the exam, achieving top rank is not necessary as long as they make it to higher grade.

*Climber* type is the kid who has goals or target. To accomplish that goal, they are capable

to fight diligently and perseverely. Moreover, they are brave and discipline. Suppose that they are willing to climb to the top of the mountain, then they will keep trying until they are sure that they have made it to the top. This type of people have good AQ. Climber type students like studying math. Assignments given by their teacher are completed properly and on time. When they find mathematic problems that are hard to solve, they will try their best to solve the problems. They do not know the word giving up. They will try various ways and methods. They also brave and discipline. They are the participants of many olimpics, like mathematics, physics olimpics, robot designing contest, English contest, as well as participat of many sport championships like karate, badminton, athletics, cycling, also in art performance such as singing, drumband, poems, music performance, et cetera.

### **E. Improving Adversity Quotient for Primary School Students**

Stoltz (2000) proposed that LEAD concept is very effective in helping people to create permanent improvements of AQ as well as in responding hardships. LEAD is L = listen (listen to your respond regarding hardship), E = explore (explore the origin and your ownership on the efect occurs), A = analize (analyze the evidences) and D = Do (do something/act).

Cultivating children's AQ is not only teacher's responsibility, but also parents, who have a big role. It is often found that parents foster their children by spoiling them. Fostering and educating by spoiling children is defective, it makes children sappy. Seligman in Arswandi (2006) stated that, "spoiling children is a process to powerlessness or duping." Consequently, there are many adult children, even those who have been graduated cannot cope with problem even the simple ones and still have ask for other people's help, especially their parents.

Why many children get frustrated nowadays? That is the symptom seen when someone cannot overcome trouble they were facing. According to Barlianto (2007), parents tend to shower their children with facility or easiness, hence children's AQ is not developed. The fault lies on the easiness or facility that is not followed by giving a chance to children to try to solve the problem frst. Consequently children are accustomed to receive something with no effort, or even it could be children escaping when they see problems. For example, a child found difficulties in studying math. To help the kid, parents provide him/her with extra course on mathematics. That made the child dependent to teacher and not getting motivated to study math. If that has already happened, try to slowly change the foster pattern on children, so they have the opportunity to solve their own problems and grow to be "tough" children.

Furthermore, parents can cultivate children's AQ by: (a) not to grant children's wish easily, (b) tell stories of success of people who have overcome difficulties, (c) remind them to hold on when facing hardships, (d) persuade children to know themselves, their weaknesses need to be removed and skills that have to be improved, (e) persuade children to pray earnestly and surrender all the efforts to God, (f) when they failed, explain that God will make it up with something better.

Do not grant children's wish easily. When children ask for something, find a way so they would make an effort. Do negotiate with the children. For example, when they ask for toys, tell them that they have to collect their pin money. Once the money is collected as much as needed for the toy that is wanted, the toy can be rewarded. Try to give reward in regard to efforts on changing bad behaviours. For example, buy them toys only if the kid confidently work on assignment before their friends in class, or wake up earlier. Observe for a month, if something is changed then the toy can be given. If nothing occurs, then delay buying toys for children until something is changed, even just a little.



## F. Inspirational Stories to Improve AQ

Inspirational stories may touch and awaken children to change and improve. Lead by their high imagination and ability to imitate, primary school children will easily imitate stories that inspire them. The stories can be come from various sources. Their surroundings with many kinds of people and their characteristics could be awakening stories. Collected inspirational works may come in the form of books, movies, uploaded to the internet, or spread by the word of mouth. Stories which uplift children's spirit to perform kindness and build their intelligence to "fight" (AQ) are indeed valuable learning.

One of the inspirational stories is the story of president of South Korea, who also a former CEO of Hyundai, Lee Myung-Bak. Lee was born in Osaka, Japan on December 19<sup>th</sup>, 1941. He has been familiar with poverty since his childhood as his father was a farmer while his mother sold vegetables, but because of his persistence and hard work for 22 years, he made it to the top position as CEO of Hyundai. After being a CEO of Hyundai, Lee stepped in to politics and elected as the mayor of Seoul. It was not all that. In 2005, Lee Myung-Bak was elected as the president of South Korea. How amazing! Son of a poor farmer eventually be the top person in industrial developed country like South Korea. That is why Lee Myung-Bak is called "Bulldozer" who strike all the obstacles in front of him with no mercy (Assad, 2012). Other stories are stories of 5 Incredible Kids written below (<http://maskolis.blogspot.com/2011/11/inilah-5-bocah-cilik-yang-sangat-luar.html>).

We might never thought of doing these kind of things in situations these kids were in when we were young. At that time, probably the most crucial moment was when our wishes were not granted by our parents. Here are some of the story about 5 incredible children who did something great eventhough people thought they are "small":

### 1. Nathan Thomson, a 9-years old kid who saved his mother from being stabbed by unknown man

The kid was stabbed at his face when he was fighting to save his mother from an unknown man. Nathan Thomson jumped to Hugh Clark's back, a drunk man who intended to stab Nathan's mother, Ena, while they were walking on the street at night. The drunk man turn into Nathan and unsheathe his knife to Nathan after stabbing Ena 8 times. Fortunately, both of them were safe and this event was handled by the authorities at the spot.

### 2. Charlie Simpson, a 7-years old child who cycle around the town to collect donation for earthquake survivors in Haiti

Charlie started his effort with simple message, "My name is Charlie Simpson, I am conducting a sponsored activity, cycling for Haiti, because was an earthquake and many people died. I want to collect money to buy foods, water and tends for Haitians." Charlie wished to collect 500 euros by cycling 15 miles around the city park. However his effort had touched many hearts and he succeeded collect 120.000 euros for Haitians.

### 3. Lin Hao, a boy who saved his classmates during an earthquake

Lin Hao was at 2<sup>nd</sup> grade at primary school and was a class leader for 30 of his friends. When an earthquake happened, the whole building collapsed and befall into Lin Hao and his friends. The entire class tried to safe their lives. However before he escaped from the disaster, he went back to the ruins and saved two of his friends who were stucked between debris. Being asked why he would risk his life for his friendsm he simply answered, "I am the class leader and I should be responsible for my friends."



#### **4. Alexis Goggin, a 7-years old kid who made her body as a shield to save his mother's life**

Alexis Goggin, the 1<sup>st</sup> grader girl at primary school was cited as “an angel from heaven” after jumping in front of an armed man and made her body as a shield against 6 bullets aimed to her mother. The mother, Selietha Parker, 30, was shot at her left temple and arm by her raging boyfriend. Before he shot another bullet to Selietha, Alexis jumped in front of the man and plead not to kill her mother. Fortunately, both of them were safe.

#### **5. Ibrahim Ouaida, a 8-years old boy drowned after saving his sister's life**

It happened when Ibrahim swam at Sandridge beach, Melbourne with his 10-years old elder sister, Sarah. A big wave came at once and swiped them to the sea. His sister kept asking for help. Ibrahim came and screamed, “I’m coming, Sis, I’m coming!” Ibrahim pulled his sister’s head to the surface and kept them afloat while saying, “I love you, you will be okay.” When a lifeguard came, Ibrahim asked to save his unconscious sister and said, “Please save her, my mother needs her, she is so precious.” After the lifeguard brought Sarah to the beach and look for Ibrahim, he had gone. For his bravery, he was given a “Bravery medal” by local government.

### **G. Conclusion**

According to the explanation stated above, it can be concluded:

1. Adversity Quotient (AQ) is an intelligence in fighting against hardship. Three types of AQ according to Stoltz (200): the Quitter (low AQ), Champer (medium AQ) and Climber (high AQ). Characteristics of a Quitter includes: minimum effort, step back as they see difficulties and afraid to face problems. Champer types are the ones who would not take big risks and being satisfied with conditions they already have or position they achieved. They also ignore possibilities they might get. Children with fine adversity intelligence love challenges, do not get stressed easily, so adrenaline are produced properly.
2. Students with high AQ or Climbers are tenacious, diligent and tough when facing troubles, always think positively, keep moving and fighting to reach the top. They always strive to find solutions for their problems. They never let something block their way to their dreams. Thus, AQ is necessary for student in their learning process, whether it was at home or school. In real life, these people keep moving forward and see challenges as opportunities. An obstacle may be disaster to someone, but it is a gift for them because it will take them to the top. These are the people who will succeed in fulfilling their dreams.
3. Therefore, Adversity Quotient need to be cultivated for children and to be integrated into every learning. One of the way to do that is by telling inspirational stories which touch and awaken children’s conscience to change and improve to be a better person. Having high imagination and ability to imitate, primary school students will easily imitate stories of struggle of children around the world. Those stories may come from various sources, stories of great people who overcame hardship during their childhoods, such as Rasulullah SAW and friends, the president of South Korean Lee Myung-Bak, the president of South Africa Nelson Mandela, and aforementioned stories of children who became heroes for their families and friends.

## References

- Arswandi. 2006. *Adversity Quotient, Apakah Itu?*. <http://www.semester.multiply.com>. Accessed 30 Desember 2006.
- Assad, Muhammad. 2012. *Notes From Qatar 1 Positive, Persistence, Pray*. Jakarta: Penerbit PT Alex Media Komputindo.
- Barlianto, E.S. 2006. *Kecerdasan Mengatasi Masalah Juga Perlu*. <http://www.tabloid-nakita.com>, Accessed 8 Januari 2007
- Efendi, A. 2005. *Revolusi Kecerdasan Abad 21: Kritik MI, EI, SQ, AQ, dan Successful Intelligence Atas IQ*. Bandung: Alfabeta.
- Eva, 2006. *Kecerdasan Mengatasi Masalah Juga Perlu*. <http://www.tabloid-nakita.com>. Accessed 8 Januari 2007
- Goleman, Daniel., 2000. *Emotional Intellegence (Kecerdasan Emosional)*. Jakarta: PT. Gramedia Pustaka Utama.
- Laksomono, H.K. 2006. *Jiwa "Climber" Pengusaha*. <http://www.paramuslim.com>. Accessed 30 Desember 2006.
- Maskolis, 2011. *Inilah 5 bocah cilik yang luar biasa*. <http://maskolis.blogspot.com>. Accessed 5 Juli 2012.
- Ronnie M, D. 2006. *The Power of Emotional &Adversity Quotient for Teacher*. Jakarta: Hikmah (PT Mizan Publika).
- Stoltz, P.G. 2000. *Adversity Quotient: Mengubah Hambatan Menjadi Peluang*. Translations: T. Hermaya. Jakarta: Gramedia Widiasarana Indonesia.
- Subiyanto, P. 2006. *Biarkan Anak Belajar Memilih*. <http://www.bali-travelnews.com>. Accessed 21 November 2007
- Sudarman, 2012. *Adversity Quotient: Kajian Kemungkinan Pengintegrasian dalam Pembelajaran Matematika*. Jurnal AKSIOMA, Volume 01 Nomor 01 Maret 2012.
- Waidi, 2006. *Mengapa Banyak Mahasiswa UT yang Drop Out*. <http://www.suara merdeka.com> Accessed 30 Desember 2006



STATE ISLAMIC UNIVERSITY  
SUNAN KALIJAGA  
YOGYAKARTA