

RECOGNIZING THE STUDENTS' INTELLIGENCES EARLIER

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Abstract

Most teachers have heard about Multiple Intelligences and learning styles nowadays. However, how many teachers know what is all about, and how to distinct the number of intelligences? The current issue that concerns in Multiple Intelligences has been widely spread out since its developing in the 1983 by Howard Gardner. The change of paradigm on human intelligence slowly moved, from IQ test into MI theory which concerns on human's intelligences. This article is aimed to explain how Multiple Intelligence theory works to determine children's intelligences in order to provide suitable teaching and learning process for students. Identifying and recognizing students' intelligence then becomes important for the teachers in teaching and learning process. MI theory proposed nine intelligences which had its own characteristics, they are: linguistic, logical-mathematical, musical, bodily-kinesthetic, spatial, interpersonal, intrapersonal, naturalistic and existential intelligence. Based on the children's intelligences above, the approach which can be used must consider the following aspects, they are: lesson design, interdisciplinary units, student projects, assessments, and apprenticeships.

Keywords: Multiple Intelligences (MI), Students' Intelligences, Learning Process.

MENGENALI KECERDASAN SISWA LEBIH DINI

Abstrak

Banyak guru telah mendengar tentang *Multiple Intelligence* dan gaya belajar siswa. Namun, berapa banyak dari mereka yang memahami tentang *Multiple Intelligence* dan cara membedakannya. Isu tentang *Multiple Intelligence* sebenarnya sudah dipublikasikan secara luas sejak pertama kali teori ini diperkenalkan pada tahun 1983 oleh Howard Gardner. Perubahan paradigma tentang kecerdasan manusia secara perlahan telah bergeser dari test IQ menuju *Multiple Intelligence* yang fokus pada kecerdasan manusia yang beragam. Artikel ini bertujuan untuk menjelaskan bagaimana teori MI bekerja untuk menentukan kecerdasan dalam rangka memfasilitasi siswa dalam belajar dengan tetap memperhatikan keragaman intelegensinya. Mengenali kecerdasan siswa merupakan hal yang penting bagi seorang guru dalam melaksanakan proses belajar mengajar. Teori MI terbagi menjadi sembilan jenis kecerdasan, yakni: linguistik, logika-matematika, musikal, kinestetik, spasial, interpersonal, intrapersonal, natural dan eksistensial. Berdasarkan ragam kecerdasan ini, pendekatan yang dapat digunakan harus memperhatikan aspek berikut: konstruksi desain pembelajaran, unit interdisiplin, proyek/tugas siswa, penilaian, dan pemahaman materi melalui magang.

Kata Kunci: Multiple Intelligences (MI), Kecerdasan Siswa, Proses Pembelajaran.

INTRODUCTION

Smart children surely become everyone's hope. Having smart and

talented children who loved their parents are the parents dream. Smartness principally is invaluable thing for the children in facing their real life

(Armstrong, 2000). Do all parents have the dream child? Some of them might be “yes”, but some of them might be “yet” or even “no”. Based on the Gardner’s point of view (1983), the dream child can be owned by every parent. In fact, becoming a smart child is not instantly achieved. It needs much time, hard effort, full attention, true patience, and parents’ sacrifice.

In many cases, sometimes the parents force the children to be what the parents’ want. The parents ignore that the children have their own way to grow, no pressures and forces. Children who forced to follow the parents’ intention, mostly, will show rejection attitude (Amstrong, 2000). The rejection acts can be in many ways; at least the children give protests or comments to the parents. In many facts, the children do such kinds of indiscipline behaviors, play truant, having no motivation to learn, lazy, and so forth. Those kinds of behaviors basically are the way of children in protesting the parents. As a result, sometimes the child will become “unwanted person” and no one for the parents.

Did this case happen only in family level? The answer might be “no”. Based on the research done by Chatib (2009), the people who force the children to be what they want are not only the parents, but also some of the teacher. In this case, the teacher forces the students to do what teacher wants, and not the students’ need. The practical example is the teacher forces the students to learn with the teacher’s way, giving them many tasks, home assignments, etc. The teacher’s way in teaching might be appropriate for some students, but not for the others. So, what should be done by the parents’ or the teachers to overcome the problem? Temur (2007:87) stated that the use of Multiple Intelligence theory in a classroom setting can solve

possible motivation and discipline problems.

This article explains the application of Multiple Intelligence theory to recognize the students’ intelligences and furthermore to provide suitable teaching and learning process for them. The article begins with the basic theory of Multiple Intelligences, continuous with the characteristics of the theory to observe the students’ intelligences, and end with providing learning process through multiple intelligences.

DISCUSSION

MULTIPLE INTELLIGENCES AND ITS CHARACTERISTICS

Multiple intelligences were proposed firstly by Howard Gardner in 1983. He is a professor and also a psychologist, who works in Harvard University. MI theory was based on the Gardner’ unsatisfying results on the traditional IQ tests in measuring someone’s intelligence. Gardner (in Mahdavy, 2008:112) noted that the traditional IQ tests were unfairly measured only logic and linguistic, and disregarded the other intelligences. In the beginning of developing his theory, he listed seven of multiple intelligences, the first two have been typically valued in schools; the next three are usually associated with the arts; and the final two are what Gardner called 'personal intelligences' (Gardner in Campbell, 2000). Gardner labeled each of these ways a different 'intelligence' in other words, a set of skills that allowing person to find and resolve the problems that they face. That is why, he defined intelligence as the ability to solve the problems or to fashion products that are valued in at least one culture or community. In addition, intelligences are the modalities to optimize individual’s ability in

obtaining the life success (Amstrong, 2002). The eight popular intelligences, as the further developing of previous seven multiple intelligences are as follows: spatial, linguistic, logical-mathematical, bodily-kinesthetic, musical, interpersonal, intrapersonal, and naturalistic. The last one of intelligence that he developed is existential intelligence, but this type of intelligence spread out widely yet. He considered that existential and moral intelligence may also be worthy of inclusion.

MULTIPLE INTELLIGENCES

Gardner listed the popular eight multiple intelligences, as he discovered from his research. The eight intelligences are as follows:

Linguistic intelligence

It involves sensitivity to spoken and written language, the ability to learn languages, and the capacity to use language to accomplish certain goals. This intelligence includes the ability to effectively use language to express oneself rhetorically or poetically; and language as a means to remember information.

Logical-mathematical

This type of intelligence consists of the capacity to analyze problems logically, carry out mathematical operations, and investigate issues scientifically. In Gardner's view, it entails the ability to detect patterns, reason deductively and think logically. This intelligence is most often associated with scientific and mathematical thinking. These are the characteristics of this type of intelligence, as follows: accounting arithmetic problems rapidly, often propose analytical questions, expert in playing chess, able to explain the problems logically in easy way,

prefer to arrange an experiment to prove something, prefer to spent the time in playing logical puzzles, obtain the good achievement in math and science. The world figures that classified having this type of intelligence are Albert Einstein, Stephen Hawking, Bill Gates, Thomas Alfa Edison, etc.

Musical intelligence

It involves skill in the performance, composition, and appreciation of musical patterns. It encompasses the capacity to recognize and compose musical pitches, tones, and rhythms. That's why they have high sensitivity to rhythm, pitch, meter, tone, melody or timbre. According to Gardner musical intelligence runs in an almost structural parallel to linguistic intelligence. People with a high musical intelligence normally have good pitch and may even have absolute pitch, and they able to sing, play musical instruments, and compose music.

Bodily-kinesthetic intelligence

It emphasizes on the use of potential whole body or parts of the body to solve the problems. It is the ability to use mental abilities to coordinate bodily movements. This intelligence enables someone to use body in a skilled way, for self-expression or toward a goal. Mimes, dancers, basketball players, and actors are among those who display bodily-kinesthetic intelligence. Gardner sees mental and physical activity as related.

Spatial intelligence

It involves the potential to recognize and use the patterns of wide space and more confined areas. This type of intelligence enable us to "think in pictures," to perceive the visual world accurately, and recreate it in the mind or on paper. Spatial intelligence is highly

developed in artists, architects, designers and sculptors.

Interpersonal intelligence

It concerns with the capacity to understand the intentions, motivations and desires of other people. It allows people to work effectively with others. Educators, salesman, religious and political leaders and counselors, skilled parents and teachers, therapists, all need a well-developed interpersonal intelligence. Gardner also added that interpersonal intelligence as an ability to perceive and understand other individuals, their moods, desires, and motivations.

Intrapersonal intelligence

It entails the capacity to understand oneself, to appreciate one's feelings, fears and motivations. In Gardner's view it involves having an effective working model of ourselves, and to be able to use such information to regulate our lives. Gardner also added that intrapersonal intelligence enables us to understand our own emotions. This refers to having a deep understanding of the self; what your strengths and weaknesses are, what makes you unique, being able to predict your own reactions or emotions. Some novelists and or counselors use their own experience to guide others.

Naturalistic intelligence enables human beings to recognize, categorize and draw upon certain features of the environment. It has to do with nurturing and relating information to one's natural surroundings. Examples include classifying natural forms such as animal and plant species and rocks and mountain types; and the applied knowledge of nature in farming, mining. Naturalistic intelligence combines a description of the core ability with a

characterization of the role that many cultures value.

Existential intelligence

The last intelligence developed by Gardner is existential intelligence. This kind of intelligence basically is the new one, and firstly spread out in the middle of 1999. Some proponents of multiple intelligence theory proposed the spiritual or religious intelligence as a possible additional type. Gardner did not want to commit to a spiritual intelligence, but suggested that an "existential" intelligence may be a useful construction. Existential intelligence, as Gardner characterized it, involves a heightened capacity to appreciate and attend to the cosmological enigmas that define the human condition, and exceptional awareness of the metaphysical, ontological, epistemological mysteries that have been perennial concern for people of all cultures (Tupper, 2002).

OBSERVING STUDENTS' MULTIPLE INTELLIGENCES

Students differ in their physical, mental and emotional abilities. They also differ in the way of learning, thinking and type of intelligence (Klien et al in Ghraibeh (2012, 103-113). Helgesen (2005, 25:33) reported that the different students' intelligences resulted the different level of processing something, in this case the information derived from reading activity. So, it suggests that the same learning task may not be appropriate for all students (Bas & Beyhan, 2010: 365-385). It is also supported by the research conducted by Yi *et al* (2011: 86-94) that creativity is well correlated with the types of students intelligences. Denig (2004: 96-111) identified that the importance of knowing students' intelligences will much help the teachers in the teaching

and learning process. He defined the multiple intelligences will help the teacher to develop and grow the student's innate potential as human being. The monotonous and same method applied in teaching and learning will limit the students' potential to grow. Gardner in D'Souza (2007: 20) stated that the current education system mainly focus on logical and verbal intelligences, that's why the teacher failed to serve the academic and career needs of many students who lay outside of these two intelligences. The students should use their intelligences to learn in every subject with all the teachers (Hoerr, 2000: 97). That's why, it is very importance for the teachers to know students' intelligences, in order to help them in developing the students academic and career needs. In line with the Hoerr, Joyce *et al* (2009: 7) concluded that the teacher duty is to create the most powerful learners. Knowing students' intelligence will help the teacher to do their duties.

THE WAY TO OBSERVE STUDENTS' INTELLIGENCES

According to Gardner, there are some ways to observe students' intelligences, based on the characteristics of each student. Each of intelligence has its own characteristics that might make them differ from and another. The easiest way to observe students' intelligences physically has been proposed by Gardner. Gardner defined the characteristics of the type of intelligences are as follows:

Linguistic intelligence; favor in writing, telling the imaginative story, and jokes, easy to memorize the names of places, date, or even the small things, doing reading most, spelling the words easily and correctly, prefer to finish crossword puzzle, having higher competence in language. Gardner sees

the writers, poets, lawyers and speakers are among those that having high linguistic intelligence. The famous figures who categorized in linguistic intelligence are J. K. Rowling, Agatha Christie, Soekarno, W. S. Rendra, Winston Churchill, Adrian Cronoure, etc.

Musical intelligence: able to play musical instruments, able to memorize the melody of a song easily, learning in musical accompaniment, sing a song for him/her self and another, having good voice to sing, good achievement in musical subject. The world figures that categorized having high musical intelligence are Ludwig van Beethoven, Stevie Wonder, Mozart, Rhoma Irama, Ahmad Dhani, Mick Jagger, etc.

Bodily kinesthetic intelligence: showing more movement when someone sit or listen to something, active in physical activities, such as swimming, cycling, sport, need to touch something they learn, enjoy jumping, run, or another physical activities, having high skill in hands-on work, easy to imitate someone's act, movement, or behavior, showing physical responses to the problems they face, often to break down the particular thing and re-build it, good achievement in competitive physical subjects. The world figures who have high bodily-kinesthetic intelligence are Ronaldo, Michael Jordan, Mike Tyson, Bagong Kusudiarjo, etc.

Spatial intelligence is characterized by some points, as follows: able to provide clear description in explaining something, easy to read the map or diagram, able to write an object precisely, prefer to watch movies, painting, photos, pictures, realize something fantasy, prefer to create streak on paper, book, wall, easy to understand the information or concept through visual media rather than explanation, high ability in art subjects. The persons who have this type of intelligence are

Leonardo da Vinci, Vincent van Gogh, Affandi, Pablo Picasso, Raden Saleh, etc.

Interpersonal intelligence, characterized by some points listed below, as follows: having a lot of friends, easy to socialize and interact with the environment, having a lot of grouped activities inside the school, as well as outside the school, often take the role as mediator to overcome the conflict, having big empathy for other's feeling, enjoy in teaching other people, talented in leadership, high ability in social subjects. The persons who have high interpersonal intelligence are F. D. Roosevelt, Winston Churchill, Soekarno, Mother Theresa, Mahatma Gandhi, etc.

Intrapersonal intelligence is characterized by some points, as follows: showing strongly independence, and hard effort, get things done well individually, having high self confidence, learn from the past, directed thinking and focus in achieving the goals, involve in individual project most. The persons who have high intrapersonal intelligence are Helen Keller, Plato, Sigmund Freud, etc.

Naturalistic intelligence is characterized by some points, as follows: loving pets much, enjoy traveling in the nature, concern in farming, planting, gardening, and having big curiosity about the nature, animal, plants, good achievement in science, biology and environment subjects. The persons who have high naturalistic intelligence are Charles Darwin, Harun Yahya, Madame Curie, Louis Pasteur, etc.

LEARNING PROCESS THROUGH MULTIPLE INTELLIGENCES

Kimble in Hergenhahn (2008: 2) defined the learning is relatively permanent changing of behavioral potentiality caused by reinforced

practice. Illeris in Thurairaj (2010: 16-17) defined that learning is multifaceted human endeavor which consists of three components, learning outcomes, mental processes, and interactive processes between learners and social environment. How to create good learning? Arends (2007:8) emphasized on three points of good learning, students involved personally in learning experience, knowledge should be inquired by the students, and the strong commitment to obtain the learning goals. There are many different styles of learning, and they propose different constructs. Each learner has a primarily learning style and can be taught how to study and concentrate capitalizing on the style (Denig, 2004: 103). The selection of learning experiences including the step to obtain the learning goals are needed, and became the importance step in conducting the learning process (Salmani, 2006:175). Based on the theory of Multiple Intelligence, the learning process should involved the different learning style and accommodate students need, both academic and career needs.

PROVIDING LEARNING PROCESS THROUGH MULTIPLE INTELLIGENCES

When asked how educators should implement the theory of multiple intelligences, Gardner says, "It's very important that a teacher take individual differences among kids very seriously. The bottom line is a deep interest in children and how their minds are different from one and another, and in helping them use their minds well" (1999: 35). An awareness of multiple-intelligence theory has stimulated teachers to find more ways of helping all students in their classes. Some schools do this by adapting curriculum. In "Variations on a Theme: How Teachers

Interpret MI Theory," Campbell (2000: 235-273) has described five approaches to curriculum change based on MI theory, as follows:

Lesson Design

Some schools focus on lesson design. This might involve team teaching ("teachers focusing on their own intelligence strengths"), using all or several of the intelligences in their lessons, or asking student opinions about the best way to teach and learn certain topics.

Interdisciplinary Units

Secondary schools often include interdisciplinary units or subjects. It is possible when the teacher teaches the particular subject to the students, and actually that subject is closely related with another subject, such as physics is closely correlated with biology.

Student projects

Students can learn to "initiate and manage complex projects" when they are creating student projects. The projects also will encourage students to work independently and responsibly.

Assessments

Assessments are devised which allow students to show what they have learned. Sometimes this takes the form of allowing each student to devise the way he or she will be assessed, while meeting the teacher's criteria for quality.

Apprenticeships

Apprenticeships can allow students to "gain mastery of a valued skill gradually, with effort and discipline over time." Gardner feels that apprenticeships "should take up about one-third of a student's schooling experience."

With an understanding of Gardner's theory of multiple intelligences, teachers, school administrators, and parents can better understand the learners in their midst. They can allow students to safely explore and learn in many ways, and they can help students direct their own learning. Adults can help students understand and appreciate their strengths, and identify real-world activities that will stimulate more learning.

CONCLUSION

Since the theory of Multiple Intelligences introduced, there was the change on viewing the human intelligences. Even, it is developed by the psychologist, Howard Gardner, but his theory well accepted into education field, because the theory he has proposed represent the students' abilities, both physically and mentally. At first, he listed only seven intelligences, and then accomplished it into nine intelligences. The nine intelligences are linguistic, logical-mathematical, musical, bodily-kinesthetic, spatial, interpersonal, intrapersonal, naturalistic and existential intelligence. Multiple Intelligence views every child is smart. As the result, the theory implies to the teaching and learning process. Learning processes based on Multiple Intelligences are characterized by some activities, especially in developing the curriculum, lesson design, interdisciplinary subjects, student' projects, assessments, and apprenticeship.

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