DEVELOPING THE MULTI-INTELLIGENCES OF OUR PUPILS AND STUDENTS

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To the Parents, Teachers, Pupils, and Students of the Christian Colleges of Southeast Asia School of Basic Education

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WHY MULTIPLE INTELLIGENCE (MI)?

- today's increasing diversity among students in terms of language, culture, religions, ability, and experience
- successful schools use a variety of teaching approaches, engage with families and communities to support life-long learning, and keep students motivated to learn and create
- (MI) theory and strategies provide a framework and tools that can help teachers in designing classrooms, instruction, and curricula that meet the individual needs of many kinds of students

WHY MI (2)?

- help teachers, students, and parents realize that there are multiple ways to learn and that they themselves possess multiple types of intellectual strengths and life skills
- increase students' confidence and enthusiasm for learning
- improve students' academic achievement
- change teachers' perceptions of their students' learning abilities
- MI unveils academic strengths and honors alternative ways of learning

WHAT IS MULTIPLE INTELLIGENCE?

- theory developed by Harvard University psychologist Howard Gardner
- first appeared in Frames of Mind: The Theory of Multiple Intelligences (Gardner, 1983)
- Gardner explored the question, What are the mental abilities that support the wide range of adult roles over time and across culture?
- Rather than defining intelligence in terms of IQ scores, Gardner offered an alternative view
- He suggested that intelligence be described as the combination of psychological and biological characteristics that enable individuals to solve problems or create products that are valued in one or more cultures (Gardner, 1999)

WHAT IS MI? (2)

Used researches from best developmental psychology, cross-cultural neuropsychology, anthropology, and evolutionary biology Theorized traits that constituted an intelligence rather than a talent or skill To be an intelligence, 7 criteria should be met

INTELLIGENCE SHOULD MEET 7 CRITERIA

- It should be seen in relative isolation in prodigies, autistic savants, stroke victims, and other exceptional populations.
- It should have a distinct developmental trajectory. That is, different intelligences should develop at different rates, from their beginnings in infancy to full adult usage.
- It should have some basis in evolutionary biology. In other words, an intelligence ought to have helped our human ancestors to survive and ought to be evident in other mammals.

7 INTELLIGENCE CRITERIA (2)

It should be captured in symbol systems. Given its importance, humans would likely have found a way to transmit information that draws on the intelligence, as they do, for example, in notations of math, language, music, spatial relations, and various forms of movement.

It should be supported by evidence from psychometric tests of intelligence. Gardner drew on this kind of evidence to uncover verbal, spatial, and numerical abilities. However, unlike traditional psychologists, he did not rely on evidence from psychometric tests at the exclusion of other information.

7 INTELLIGENCE CRITERIA (3)

- It should be distinguishable through experimental psychological tasks. For example, experimental psychologists have found that different neural structures help to support different kinds of mental processing.
- Finally, it should demonstrate a core information-processing operation. That is, there should be nearly automatic mental processes that handle information related to each intelligence.
- For example, barring neurological impairment, human beings automatically break up streams of sounds into the words of their own language, discriminate greater or lesser numbers in small groupings of objects, attempt to make sense of facial expressions in interpersonal encounters, and make distinctions between pitches when they hear music.

WHAT ARE THE 8 INTELLIGENCES THAT COMPRISE MI?

- Linguistic intelligence
- Logical-mathematical intelligence
- Spatial intelligence
- Musical intelligence
- Bodily-kinesthetic intelligence
- Interpersonal intelligence
- Intrapersonal intelligence
- Naturalist intelligence



Love being on the move, constructing, using the whole of their bodies





Art fans Love creating, designing, experimenting with shapes and colour

Logical Mathematical



Number Fans Love order and structure, sorting, classifying and experimenting





Enviro fans Love learning about and exploring the natural environment



Music Fans Love rhyme and rhythm, poetry, playing, singing or moving to music



Love company, organizing activities involving others and communicating



Reflection fans Love seeing the 'big picture', spending time thinking and planning

Verbei Lingvistic



Word Fans

Love reading, writing, memorising language and speaking

IN SUMMARY, THE MI'S ARE:

- Verbal/Linguistic Intelligence "word smart"
- Logical-mathematical Intelligence -"number/reasoning smart"
- Visual/Spatial Intelligence "picture smart"
 Bodily/Kinesthetic Intelligence "body smart"
 Musical/Rhythmic Intelligence "music smart"
 Interpersonal Intelligence "people smart"
 Intrapersonal Intelligence "self smart"
 Naturalist Intelligence "nature smart"

"Half th compor who ha say and other h nothing keep or Robert

INTELLIGENT, PEOPLE IGNORI Verbal/Linguistic – poets writers, newscasters

- Logical-mathematical accountants, bankers, doctors, scientific research
- Visual/Spatial dreamers, artists, architexts, advertisers
- Bodily/Kinesthetic dancers, dramatic actors, mime, physical education
- Musical/Rhythmic music composers, music teachers, musical theater

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- Interpersonal counselors, politicians, sociologists, therapists
- Intrapersonal preachers, spiritual counselors, psychiatrists, philosophers
- Naturalist farmers, gardeners, florists, geologists, archaeologists

Gardner's Multiple Intelligences

www.educatorstechnology.com

1- VERBAL / LINGUISTIC	learning through the spoken and written word. This intelligence was always valued in the traditional classroom and in traditional assessments of intelligence and achievement.				
2- MATHEMATICAL / LOGICAL	learning through reasoning and problem solving. Also highly valued in the traditional classroom, where students were asked to adapt to logically sequenced delivery of instruction				
3-BODILY / KINESTHETIC	learning through interaction with one's environment. This intelligence is not the domain of "overly active" learners. It promotes understanding through concrete experience.				
4- MUSICAL / RHYTHMIC	learning through patterns, rhythms and music. This includes not only auditory learning, but the identification of patterns through all the senses.				
5- INTRAPERSONAL	learning through feelings, values and attitudes. This is a decidedly affective component of learning through which students place value on what they learn and take ownership for their learning.				
6- INTERPERSONAL	learning through interaction with others. Not the domain of children who are simply "talkative" or "overly social." This intelligence promotes collaboration and working cooperatively with others.				
7- NATURALIST	learning through classification, categories and hierarchies. The naturalist intelligence picks up on subtle differences in meaning. It is not simply the study of nature; it can be used in all areas of study.				
8- VISUAL / SPATIAL	learning visually and organizing ideas spatially. Seeing concepts in action in order to understand them. The ability to "see" things in one's mind in planning to create a product or solve a problem.				

Kharbach

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Source :surfaquarium.com

QUESTIONS PARENTS SHOULD ASK IF THEIR CHILDREN ARE EXHIBITING WELL-DEVELOPING MI'S

BODILY-KINESTHETIC

- excel in more than one sport?
- move various body parts when required to sit still for long periods of time?
- have the ability to mimic others' body movements?
- enjoy taking things apart and putting them back together?
- have a hard time keeping hands off objects?
- enjoy running, jumping, or other physical activities?
- show skill in activities that require fine-motor coordination, such as origami, making paper airplanes, building models, finger-painting, clay, or knitting?
- use his body well to express himself?

QUESTIONS ON MI - INTERPERSONAL

- enjoy socializing with friends?
- seem to be a natural leader?
- empathize easily with others, which leads to his giving advice to friends who come to him with problems?
- seem to be street-smart?
- enjoy belonging to organizations?
- enjoy teaching other kids either peers or younger ones?
- have two or more close friends?
- serve as a magnet for social activities with others?

QUESTIONS ON MI - INTRAPERSONAL

- show a sense or independence or a strong will?
- have a realistic sense of her abilities and weaknesses?
- do well when left alone to play or study?
- "march to the beat of a different drummer" in living and learning?
- have a hobby or interest she doesn't talk about much?
- have a good sense of self-direction?
- prefer working alone to working with others?
- accurately express how he is feeling?
- Iearn from failures and successes?
- have good self-esteem?

QUESTIONS ON MI – LINGUISTIC

- write better than average for her age?
- enjoy telling stories and jokes?
- have a good memory for names, places, dates, and other information?
- enjoy word games, either visually or auditorally?
- enjoy reading books?
- spell better than other children the same age?
- appreciate rhymes, puns, tongue twisters?
- enjoy books on tape without needing to see the book itself?
- enjoy hearing stories without seeing the book?
- have an excellent vocabulary for his age?
- communicate thoughts, feelings, and ideas well?

QUESTIONS ON MI – OGICAL-MATHEMATICAL

- demonstrate curiosity about how things work?
- have fun with numbers?
- enjoy math at school?
- enjoy math and/or computer games?
- play and enjoy strategy games such as chess and checkers, brain teasers, or logic puzzles? easily put things into categories?
- Ike to do experiments, either at school when assigned or on her own?
- show an interest in visiting natural history or discovery-type museums and exhibits?

QUESTIONS ON MI – MUSICAL

- tell you when she recognizes that music is off-key?
- easily remember song melodies and sing them?
- have a pleasant singing voice, either alone or in a chorus?
- play a musical instrument?
- speak or move in a rhythmical way?
- hum or whistle to himself?
- tap on the tabletop or desktop while working?
- show sensitivity to noises in the environment?
- respond emotionally to music she hears?

QUESTIONS ON MI – NATURALIST INTELLIGENCE

- talk about favorite pets or preferred natural spots?
- enjoy nature preserves, the zoo, or natural history museum? show sensitivity to natural formations? (Note that in urban environments, this type of "formation" can include cultural icons.)
- like to play in water?
- hang around the pet in school or at home?
- enjoy studying environment, nature, plants, and animals?
- speak out about animal rights and earth preservation?
- collect bugs, flowers, leaves, or other natural things to show to others?

QUESTIONS ON MI – SPATIAL

- recall visual details in objects?
- have an easy time learning to read and understand maps and charts in books?
- daydream a lot?
- enjoy the visual arts?
- demonstrate ability in using art materials and creating drawings, sculptures, or other three-dimensional objects?
- enjoy visual presentations such as videos, television, and movies?
- get a lot of information from illustrations in books she reads?
- scribble, doodle, or draw on all available surfaces?

APPLYING MI DURING HERITAGE / TRADITIONS UNIT SOURCE

	FIGURE I: ACTIVITIES ⁴									
UNGUISTIC BATTAL NTERFERSONAL MATTERNATICAL										
x	x							Scrapbook development: Students create aesthetically pleasing scrapbook pages to present what they have learned in the Heritage/Traditions Unit activities.		
x		x	x					Interview: Students interview family members and use the interview material to write stories and poems.		
x	x							Writing: Students' writing process includes writing webs to help them brainstorm and connect ideas.		
x			x					Autobiography: Students write brief autobiographies.		
	x	x		x				Math activities: Students produce Venn diagrams comparing their own and older relatives' childhood, Heritage graphs, and "what if."		
	x				x		x	Performing arts: Students learn music and dance of different cultures.		
			x	x				Project coordination: Students learn the organizational skills necessary to complete a large scale project over an extended period of time.		
x		x	x					Heritage/Traditions Banquet: Students present their scrapbooks to teachers, classmates, and family members at a culminating banquet.		

*ACTIVITIES FIGURE 1: Multiple Intelligences Engaged During the Heritage/Traditions Unit Source: Kornhaber, Fierros, & Veenema (2004). Multiple Intelligences: Best Ideas from Research and Practice.

MI TEACHING EXAMPLE

- Read about it (linguistic)
- Study mathematical formulas that express it (logical/mathematical)
- Examine a graphic chart that illustrates the principle (spatial)
- Observe the law in the natural world (naturalist)
- Observe the law in the human world of commerce (interpersonal)
- Examine the law in terms of your own body, e.g. when you supply your body with lots of food, the hunger demands goes down; when there's very little supply, your stomach's demand for food goes way up and you get hungry (bodilykinesthetic/intrapersonal)
- Write a song that demonstrates the law (musical)

MI IN THE CLASSROOM

Classroom activities frequently activate and utilize more than one of the multiple intelligences.

Group discussion - Verbal-Linguistic; Interpersonal
* Journal writing - Intrapersonal; Verbal/Linguistic
Choreography - Musical-Rhythmic; Verbal-Linguistic; Interpersonal
* Constructing timelines - Logical-Mathematical; Visual-Spatial
 * Putting on a play - Musical-Rhythmic; Verbal/Linguistic; Interpersonal; Visual-Spatial
 Making a video - Logical-Mathematical, Musical-Rhythmic; Verbal/Linguistic;
Interpersonal; Visual-Spatial
Writing a report or essay - Verbal-Linguistic
* Making graphs - Logical-Mathematical; Visual-Spatial
* Designing posters - Verbal-Linguistic, Visual-Spatial
 Communicating with peers or experts online - Verbal-Linguistic; Interpersonal
Hands-on experimentation - Kinesthetic; Logical/Mathematical
Composing a song - Musical/Rhythmic; Verbal-Linguistic
 * Building a model or 3-D displays - Kinesthetic; Logical- Mathematical

SHAPES – CIRCLES

- Make a group circle by joining hands. Interpersonal, Bodily-Kinesthetic
- Look for circles around the classroom. Spatial
- Make circles in art projects. Spatial, Bodily-Kinesthetic
- Sing circle songs, or songs that have something to do with circles.
 - Musical
- Make up stories about circles. Linguistic
- Compare sizes of circles (from small to large). Spatial, Logical-Mathematical

MI - SPELLING

- Create categories for your spelling words.
 - Logical-mathematical
- Write your words using different colors for the letters of parts of the word.
 - Visual/spatial
- Make up a story using all spelling words. Tell the story to another person.
 - Verbal/linguistic
- Sing-spell your words to the melody of your favorite song. Musical
- Create your own goals on how you will study and learn your spelling words.
 - Intrapersonal

MI RAP BY SHAWNA MUNSON

The eight intelligences are really cool. We all have them so no one is a fool

Linguistic deals with writing and with words. We have language - we're not like animals or birds.

Logical-mathematical doesn't need to be a shock. If you study real hard, you'll be smarter than Spock!

Spatial involves seeing, drawing, and art, **Creating different things and taking them apart.**

In case you didn't know, kinesthetic is P.E. Get fit and coordinated athletically!

MI RAP BY SHAWNA MUNSON

Naturalists are collectors of animals and plants. They like to press flowers and count little ants.

All of these so far are really neat, But I like musical 'cause it has a beat.

Sometimes, I feel lonely, without any friends, But interpersonal skills put that to an end.

Intrapersonal skills are when you want to reflect. For yourself, you should always have respect.

Now, I've come to the end of my rap. Learn in many ways and you'll never be a sap.

BENEFITS OF USING MI IN SCHOOLS

- You may come to regard intellectual ability more broadly. Drawing a picture, composing, or listening to music, watching a performance -- these activities can be a vital door to learning -- as important as writing and mathematics. Studies show that many students who perform poorly on traditional tests are turned on to learning when classroom experiences incorporate artistic, athletic, and musical activities. Take music, for example. As educator, David Thornburg of the Thornburg Institute notes, "The mood of a piece of music might communicate, clearer than words, the feeling of an era being studied in history. The exploration of rhythm can help some students understand fractions. The exploration of the sounds of an organ can lead to an understanding of vibrational modes in physics. What caused the great scientist Kepler to think of the motions of planets in musical terms? Astronomy students could program a synthesizer to play Kepler's 'music of the spheres' and explore history, science, math and music all at once."
- You will provide opportunities for authentic learning based on your students' needs, interests and talents. The multiple intelligence classroom acts like the "real" world: the author and the illustrator of a book are equally valuable creators. Students become more active, involved learners.
- Parent and community involvement in your school may increase. This happens as students demonstrate work before panels and audiences. Activities involving apprenticeship learning bring members of the community into the learning process.
- Students will be able to demonstrate and share their strengths. Building strengths gives a student the motivation to be a "specialist." This can in turn lead to increased self-esteem.
- When you "teach for understanding," your students accumulate positive educational experiences and the capability for creating solutions to problems in life.

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