

INNOVATION TO MULTIPLE INTELLIGENCE IN THE CLASS ROOM

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ABSTRACT

Multiple intelligence its greatest contribution to education by suggesting that teachers need to expand their repertoire of techniques, tools and strategies beyond the typical linguistic and logical method. The theory of Multiple intelligence functions not only as a remedy to one sidedness in teaching but also as a met model for organizing and synthesizing all the educational innovations that have sought to break out of the narrowly confines approach to learning.

1.Introduction

Education is the creation of sound mind in a sound body. Education brings all round harmonious development of the personality of an individual such as physical, intellectual aesthetic, social, economic, religious culture, spiritual and through such development of individual social needs can be realized.

The theory of Multiple intelligence was proposed by Howard Gardner in 1983 to more accurately define the concept of intelligence. Multiple intelligence is a set of skill allowing individuals to find and resolve genuine problems they face. He defined “intelligence” as the ability to solve problems or to fashion products that are valued in one or more cultural settings. From the above eight criteria, Gardner proposed and defined nine intelligences. They are-

- i. Verbal - Linguistic intelligence.
- ii. Logical- Mathematical intelligence.
- iii. Spatial Visual intelligence.
- iv. Bodily- Kinaesthetic intelligence.
- v. Musical intelligence
- vi. Inter Personal intelligence
- vii. Intra Personal intelligence
- viii. Naturalist intelligence
- ix. Existential intelligence

Howard Gardner acknowledge that people have different cognitive strengths as well as different cognitive styles. According to him, multiple intelligences are eight different ways to demonstrate intellectual abilities.

1.1 Verbal Linguistic Intelligence:

Learning through the spoken and written word. It also the ability to learn fro reading the printed word and listening to other's conveyed information through speaking. Ask Student's to write a story about what they're studying. If they're learning a process, have them write an instruction manual or give a how to speech. Writing scripts, making videos. Or designing a brochure are other good activities for this intelligence.

1.2 Logical Mathematical:

Beyond doing math problems, this intelligence focuses on logical reasoning and problem solving. Can Students conduct a survey and graph or chart the results? For English or History Classes, use a debate to teach the basics of logic and rhetoric. Ask Students to function the way a real life scientist does using logic and or math to solve a problem or propose a hypothesis.

1.3 Spatial Intelligence(Picture smart):

It is the ability to thing visually and orient spatially , i.e. ability to perceive the visual- spatial world accurately. This includes sensitivity to colour, line, shape, form, space and the relationships between these Artists, decorators, architects, pilots, sailors, surveyors, inventor and guides belong to his category. Famous example: Picasso, Frank, lioyd wright and Leonardo da Vinci

1.4 Bodily- kinaesthetic Intelligence:

The core elements of the bodily kinaesthetic

intelligence are control of one's bodily motions and the capacity to handle objects skilfully. Gardner elaborates to say that this also include a sense of timing, a clean sense of the goal of a physical Action, along with the ability to train responses. People who have high- bodily- kinaesthetic intelligence should be generally good at physical activities such as sports, dance, acting and making things. Gardner believes that suit those with high bodily- kinaesthetic intelligence include: athletes, dancers, Musicians, actor, builders, police officers, and soldiers.

1.5 Musical Intelligence

Rhythm and music People who have strong musical intelligence are good at thinking in patterns, rhythms, and sounds. They have a strong appreciation for music and are often good at musical composition and performance.

1.6 Inter Personal intelligence:

In theory, individuals who have high interpersonal intelligence are characterized by their sensitivity to other's moods, feelings, temperaments, motivations, and their ability to cooperate in order to work as part of a group. According to Gardner in *How Are kids smart*. Multiple intelligence in the classroom. "Inter and intra personal intelligence is often misunderstood with being extroverted or liking other people" Those with high interpersonal intelligence communicate effectively and empathize easily with others, and may be either leaders or followers.

1.7 Intra Personal intelligence:

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.

1.8 Naturalist intelligence:

Learning Through classification, categories, and hierarchies. The naturalist intelligence picks up on subtle difference in meaning. It is not simply the study of nature; it can be used in all areas of study.

1.9 Existential intelligence:

Learning by seeing the "big Picture": "Why are we here?" "What is my role in the world?" "What is my place in my family, school and community?" This intelligence seeks connections to real world understandings and applications of new learning.

2. Multiple Intelligence In the teaching:

Teachers should first evaluate their own intelligence before carrying out multiple intelligence teaching, and use their dominant intelligence in planning materials and lesson plans. They should also keep track of student performance with observations and written records. This can help to assess each student's intelligence and provide support accordingly. Gardner thought physics, biology, humans, products, self- Understanding and understanding of the world are very important educational objectives. Therefore teachers should make clear the lesson's key points and contents and teach with practical and interesting material to enrich the lessons and reinforce learning. Lastly, there is neither right nor wrong with the multiple intelligences theory itself; the key is to understand and adopt the most beneficial method for students. Each student has an individual profile of characteristics, abilities and challenges that result from learning and development. These manifest as individual difference in intelligence, creativity, cognitive style, motivation and the capacity to process information, communicate and relate to others. Two fundamental assumptions that underlie formal education system are: (a) students retain knowledge and skills they acquire in classroom; and (b) they can apply them in situation outside the classroom. But are these assumptions accurate? Students who are high in creative intelligence are often not on the top rank of their class. The reason behind this is that instead of giving conformist answers, they give unique answers, for which they get marked down. Likewise, students with high practical intelligence often do not relate well to the demands of school. However, these students often do well outside the classroom. They might have excellent social skills and good common sense. Therefore, students should be given opportunities to learn through creative and practical thinking, in addition to conventional strategies that focus on simply Learning and remembering a body of information. It is important in teaching to balance instruction related to different types of intelligence. Teachers could develop multiple intelligence in the classroom stepwise, that is, identify instructional goals and objectives; consider activities that may help the students in the development of multiple intelligence; limit the number of activities to two or three; consider what resources and materials he will need to implement the lesson; specify a time-frame for the lesson; provide an opportunity for reflection by students; and integrate assessment into the learning process.

2.1 Consider how technologies map to each of the nine intelligence:

Intelligence	Technologies
Verbal	Textbook, pencil, worksheet, newspaper magazine, word processing, electronic mail, desk top publishing, web-based publishing, keyboard, speech recognition device, text bridges
Logical	Lecture, Cuisenaire rods, tangrams, measuring cups, measuring scales, ruler/yardstick, slide rule, graphing calculators, spreadsheet, search engine, directory, FTP clients, gophers, web quests, problem solving tasks, programming languages
Visual	Overhead projector, television, video, picture books, art supplies, chalk board, dry erase board, slide shows, charting and graphing, monitor, digital camera/ camcorder, scanner graphics editor, html, editor, digital animation/ movies.
Kinesthetic	Construction tools, kitchen utensils screw, lever, wheel and axle, inclined plane, pulley, wedge, physical education equipment, manipulative materials, mouse, joystick, simulations that require eye hand coordination, assistive technologies, digital probes
Musical	Pattern blocks, puzzles, musical instruments, phonograph, head phones, tape player/ recorder, digital sounds, online pattern games, multimedia presentations, speaker, CD Rom Disks, CD Rom Player
Intrapersonal	Journals, diaries, surveys, voting machines, learning centre, children's literature, class debate, real time projects, online surveys, online forms, digital portfolios with self-assessments
Interpersonal	Class discussion, post-it notes, greeting cards, laboratory, telephone, intercom, board games, costumes collaborative projects, chat, message boards, instant messenger
Naturalist	Magnifying glass, microscope, telescope, bug box, scrap book, sandwich bag, plastic container database, laserdisc, floppy drive, file manager, semantic mapping tools
Existential	Art replica, planetarium, stage drama, classic literature, classic philosophy, symbols of world religions, virtual communities, virtual art exhibits.

3. Role of Teacher in developing Multiple intelligences:

In the society where education is so vital, it is important to have students catch up and get ahead in different skills. This can be Accomplished through purposeful teaching of specific skills and strategies. Students are asked to take on multiple role and to learn many different skills in educational institutions. For a variety of reasons, students need to prioritize what roles they can accept and what skills to develop- learning some important skills underdeveloped? Teachers can cultivate Linguistic intelligence by adopting the following techniques of teaching: creative writing brainstorming activities, formal speaking, poetry, reading, story- telling/ story- creation, verbal debate, lecture, discussion, journal writing, co-operative learning, word origins, vocabulary etc. Logical-mathematical intelligence can be strengthened by encouraging the use of computer programming languages, critical thinking activities, linear outlining, Piagetian cognitive stretching exercise, science fiction scenarios logic puzzles and logical/sequential presentation of subject matter. The following teaching methods can be used: abstract symbols/formulas, calculations, forcing relationships, graphic/cognitive organizers, logic/pattern games (number games), number sequences/patterns and problem solving-listing appropriate procedures for problem-solving situations, critical thinking, classifying Socratic questioning etc. Teachers can foster musical

intelligence by integrating environmental sounds, instrumental sounds, music composition/creation, music performance, percussion vibrations, rhythmic patterns etc. Spatial Intelligence can be fostered by utilizing charts, graphs, diagrams, graphic organizers, videotapes, colour coding systems, art activities, doodling, microscopes and computer graphics software, active imagination, colour/texture schemes, drawing, mind mapping, painting, sculpting, etc. Teaching may encourage growth in bodily kinaesthetic intelligence through the use of touching, feeling, movement, improvisation, "hands-on" activities, facial expressions and physical relaxation exercises, body language/physical gestures, body sculpture/tableaus, dramatic enactment, folk/creative dance, gymnastic routines, human graphs, inventing, role playing/mime, using manipulative, hand signals, pantomime, real life situations, puzzles and board games, activities, role-playing, action problems, sports and games etc.

3.1 Consider these observable actions for each intelligence:

Intelligence	Observable Actions
Verbal	Read, write, speak, tell, ask, explain, inform, convey, report, articulate, address, confer, request, recount, lecture, present, announce, narrate, debate, discuss, converse, recite, quote, describe, clarify
Logical	Solve, resolve, question, hypothesize, theorize, scrutinize, investigate, experiment, analyse, deduce, prove, verify, decipher, determine, predict, estimate, measure, calculate, quantify, simplify
Visual	Observe, Symbolize, draw, sketch, draft, illustrate, paint, colour, contour, outline, rearrange, design, redesign, invent, create, conceive, originate, innovate, imagine, picture, envision, visualize, pretend
Kinaesthetic	Build, construct, erect, assemble, make, manufacture, structure, craft, imitate, play, perform, walk, run, jump, dance, collect, gather, compile, fashion, shape, duplicate, dissect, exercise, move, transport
Musical	Listen, hear, inter, note, patter, sing, clap, chant, model, repeat, replicate, reproduce, copy, echo, imitate, impersonate, mimic, compose, harmonize, dub, rap, orchestrate, resonate
Intrapersonal	Express, imply, support, sponsor, promote, advise, advocate, encourage, champion, justify, rationalize, characterize, defend, validate, vindicate, assess, evaluate, judge, challenge, survey, poll
Interpersonal	Share, lead, guide, direct, help, mediate, manage, conduct, collaborate, cooperate, interview, influence, persuade, campaign, convince, compromise, role play, improvise, ad-lib, referee, reconcile
Naturalist	Sort, organize, categorize, compare, contrast, differential, separate, classify, detail, align, order, arrange, sequence, inventory, catalogue, group, file, index, chronicle, log, map, chart, graph
Existential	Reflect, contemplate, deliberate, ponder, summarize, synthesize, associate, relate, recap, encapsulate, elaborate, appreciate, appraise, evaluate, assess, speculate, explore, dream, wonder

4. Conclusion:

It is not possible for a student to be blessed with all types of intelligences in equal measure. Most of the students are likely to possess high level of intelligence in one or two types and an average or less than average level of intelligence in other types. This calls for differential curricular inputs and transactional strategies for different students. It is the first essential thing for healthy development of learners to provide planned and structured environment in which they grow and learn in a natural way. Nine kinds of intelligences need nine

ways to teach. Whatever a teacher is teaching, he might connect it with the words, numbers or logic, music, pictures, physical experience, social experience, self-reflection and experience in the natural world. When he will connect all these with each other directly or indirectly, he can foster learners and help them develop linguistic, logical-mathematical, musical, spatial, bodily-kinaesthetic, interpersonal, intrapersonal and naturalistic intelligence respectively. But, it is very difficult for a teacher to adopt eight different ways to teach, so, a learner desirous of knowledge should go from teacher to teacher like the bee avid of honey going from flower to flower.

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