**ENHANCING MULTIPLE INTELLIGENCE IN THE CLASSROOM**

Reference ID : **IIPER1679804725**

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**Introduction**

It is an undeniable truth that all individuals possess a set of intelligences which make them unique. All individuals are not alike. Each of them has their own strengths as well as their weaknesses. An individual intelligence’s of is denoted by his/her power or capacity. Intelligence differs from one individual to another. Before many decades, Howard Gardner’s theory of Multiple Intelligence became popular with teachers as well as parents by serving as a tool for exploring the gifts and talents of children. Gardner describes different areas of intelligence such as verbal/linguistic intelligence, mathematical/logical intelligence, spatial intelligence, musical intelligence, kinesthetic intelligence, interpersonal intelligence, intrapersonal intelligence, naturalistic intelligence and existential intelligence.

**Theory of multiple intelligence**

The study about intelligence involves multi-disciplinary, scientific and systematic act where inferences are drawn from various disciplines such as Psychology, Sociology, Anthropology, Biology, Neurology and also Humanities. It has resulted in the emergence of the theory of Multiple Intelligence which is presented in the book of Gardner titled *“Frames of mind”*. Gardner (1983) says that intelligence is much more than Intelligence Quotient (IQ) since in the absence of productivity, a high IQ does not equate to intelligence. Intelligence is stated by Gardner in a much broader way than psychometricians who considered intelligence as a simple entity described psychometrically with an IQ score.

The theory of multiple intelligence is changing the way some teachers teach. Gardner defines intelligence as the ability to solve problems or to create products, which are valued within one or more cultural settings. According to Gardner, there is no general intelligence as such and rather multiple intelligence. He says that all human beings have multiple intelligence that can be nurtured and strengthened. The categories of intelligence are mentioned below.

According to Multiple Intelligence theory, all these areas of intelligence are necessary to create effective functioning of society. Educators should give importance to all these categories of intelligence, and they need to impart a wide range of knowledge and skills to students. In the classroom, all students differ in the sense that they have different sets of developed intelligence. Teachers can teach the learners how to use their more developed intelligence to help them understand a subject rather than using their weaker intelligence. Since all students have different learning styles, they can be evaluated by creating and applying an “intelligence file” that can help the educators to evaluate and correctly choose the most suitable and efficient teaching methods in the classroom for the benefit of students.

**AREAS OF MULTIPLE INTELLIGENCE**

Verbal Linguistic Intelligence

 Verbal Linguistic Intelligence is the area of intelligence which is responsible for all kinds of linguistic competencies. If a student has this type of intelligence, he or she probably likes to play word games, make up poetry and stories, get involved in discussions with other people and also involve in debating, formal speaking, creative writing and telling jokes. Students with this type of intelligence also manipulate language through reading and writing as well as discussions. In addition to communicating effectively, they use auditory skills and also have a good vocabulary. They also clearly write, easily spell and think in terms of words. Authors, journalists, poets, orators, politicians, salespeople, translators, comedians and other professionals like lawyers are mostly found to exhibit this type of intelligence.

The methods and tools that can be used in teaching-learning to improve students’ verbal communication skills are listening to talking books and cassettes, involving in speeches and debates, extemporaneous speaking, large and small group discussions, brainstorming activities, choral and individualized reading, reading aloud in class, use of worksheets and manuals, writing activities, word games, recording one's words, using word processors and so on.

Logical Mathematical Intelligence

 Logical Mathematical Intelligence is the area of intelligence that is responsible for all types of skills, talents and abilities in all aspects related to logic and mathematics. Logical and mathematical learners are those learners who are generally active when they are presented with a problem. Students with this type of intelligence have the ability to understand patterns and numerical relationships. A students is logic/math smart when he/she thinks in terms of numbers, patterns and algorithms. These students often work on mathematical problems, patterns, strategy games and also involve in experiments. Mathematicians, physicists and philosophers are mostly found to exhibit this type of intelligence.

The Logical Mathematical Intelligence of students can be enhanced through various techniques and tools namely logical problem-solving exercises, logical puzzles and games, logical-sequential presentation of subject matter, scientific thinking, scientific demonstrations, creating codes, classifications and categorizations, quantifications and calculations, computer programming languages, Socratic questioning, Piagetian cognitive stretching exercises and so on.

Visual Spatial Intelligence

 Visual Spatial Intelligence is the area of intelligence that is concerned with the skills, talents and abilities involving the representation and manipulation of spatial configuration and relationship. Students with visual spatial intelligence possess artistic capabilities, have an eye for detail and colour, spatial awareness, and enjoy painting and sculpting. Many people make use of this kind of intelligence in their sphere of work. Students are said to possess visual/spatial intelligence when they think in terms of pictures and images. Such students are good with spatial relations, have a good eye for detail and colour, see solutions to problems, learn through visuals, and like to draw and create. Students with extreme levels of this kind of intelligence may be caught doing mazes, puzzles, or just drawing and daydreaming. Land surveyors, architects, engineers, mechanics, navigators, sculptors and chess players are mostly found to exhibit this type of intelligence.

Charts, diagrams, graphs, maps, photography, movies, videos, visual puzzles and mazes, slides, 3D construction kits, creative daydreaming, imaginative storytelling, picture metaphors, painting, collage, visual arts, idea sketching, visual thinking exercises, graphic symbols, using mind-maps and other visual organizers, computer graphics software, visual awareness activities, optical illusions, colour cues, and telescopic lenses are some of the techniques and materials that can be used in teaching and learning to develop students’ visual spatial intelligence.

**Bodily Kinesthetic Intelligence**

 Bodily Kinesthetic Intelligence is the capacity to use whole body (the hand, fingers and arms) to solve a problem, make something or produce something. It is the ability to perform skillful and purposeful movements. People have strength in this intelligence tend to have a keen sense of body awareness. They can often perform a task much better than others. They probably like physical games of all kinds and demonstrate how to do something. These people may find it difficult to sit still for long periods of time and are easily bored. Students are body smart when they are highly coordinated, use gesture and body language, take things apart and fix them, learn through hands on activities, enjoy acting and role playing, and enjoy dancing and athletics. The possible careers include athletics, physical education teachers, surgeons, gymnasts, actors, and firefighters. Athletes, surgeons or people in the performing arts, particularly dance or acting are mostly found to exhibit this type of intelligence.

To improve Bodily Kinesthetic Intelligence among students, teaching-learning techniques and resources namely, creative movement, mime, hands-on thinking, field trips, competitive and cooperative games, physical awareness and relaxation exercises, crafts, body maps, cooking, gardening, manipulatives, virtual reality software, physical education activities, communicating with body language, tactile materials and experiences, body answers, etc. can be employed.

Musical Rhythmic Intelligence

 Musical Rhythmic Intelligence is the type of human intelligence that is covers the abilities, talents and skills pertaining to the field of music. It may be well demonstrated through one’s capacity for pitch discrimination, sensitivity to rhythm, texture and timbre, ability to hear themes in music and in its most integrated forms, the production of music through performance or composition. Individuals with this intelligence are sensitive to sound. Students are music smart when they have a good sense of rhythm and melody, like to sing, hum, chant and rap, enjoy listening to music, read and write music, learn through music and lyrics, and enjoy creating music. It is visible in a quite large proportion in professional like musicians, composers, singers and conductors.

The strategies and materials can be employed in teaching-learning to enhance students’ musical rhythmic intelligence are singing, humming, whistling, playing recorded music, playing live music on piano, guitar and other instruments, group singing, music appreciation, playing percussion instruments, rhythms, songs, chants, using background music, linking old tunes with concepts, discographies, creating new melodies for concepts, listening to inner musical imagery, super memory music, etc.

Interpersonal Intelligence

 Interpersonal Intelligence is the ability to understand and work with others that every individual needs. Social interactions in day-to-day life are qualitatively maintained with it. Some examples are teachers, sales people, politicians and religious leaders. Anybody who deals with other people has to be skilled in the interpersonal sphere. This is the person-to-person way of knowing. It is the knowing that happens when we work with and relate to other people, often as part of a team. These persons probably have lots of friends, showing a great deal of empathy for others and exhibit a deep understanding of others points of view. They probably love team activities of all kinds and are good team members. These people are sensitive to other people’s feelings and ideas. Moreover, they are likely to be skilled at drawing others out into a discussion. They are also probably skilled in conflict resolution, mediation and finding a compromise when people are in radical opposition to one another. In the educational setup this intelligence thrives on active learning within the social context of the classroom.

The strategies and materials like cooperative groups, interpersonal interaction, conflict mediation, peer teaching, board games, cross-age tutoring, group brainstorming sessions, peer sharing, community involvement, apprenticeships, simulations, academic clubs, interactive software, social gatherings as context for learning, people sculpting, etc. can be employed in teaching-learning to enhance interpersonal intelligence among students.

Intrapersonal Intelligence

 Intrapersonal Intelligence is the ability to know oneself, his cognitive strengths, styles and mental functioning. It refers to what one can do, what one wants to do, how one reacts to things and which things one avoids. They tend to know what they cannot do. Also, they know where to go if they need help. It thus provides insight to one’s total behaviour. It is the ability for self-analysis and self-reflection. It involves our awareness of the inner world of the self, emotions, values, beliefs and spirituality. Philosophers, yogis and saints demonstrate it. Students who have this intelligence are often strong willed, self-confident and have definite opinion on almost any issue. If this intelligence is one of the strong points of students, they may like to work alone and sometimes they may shy away from others. They have creative wisdom and their insights are highly intuitive.

By employing the strategies and materials namely, independent study, feeling-toned moments, self-paced instruction, individualized projects and games, private spaces for study, one-minute reflection periods, personal connections, options for homework, choice time, self-learning programmed material, self-esteem activities, journal keeping, goal setting sessions, etc. in teaching-learning enhance students’ intrapersonal intelligence.

Naturalistic Intelligence

Naturalistic Intelligence is the latest addition to Gardner’s intelligence in 1997. It refers to the ability to recognise and classify plants, minerals and animals, including rocks and grass and all varieties of flora and fauna. The ability to recognise cultural artefacts may also depend on the naturalistic intelligence. Students with this intelligence may have an awareness of the natural world phenomena, discriminate natural items like animals, insects, birds, fish, rocks, minerals, plants, or non-natural items like cars and also, they learn best when the content is related to the natural world. It involves the full range of knowing all that occurs in and through our natural environment. Students are probably either fascinated or affected by the weather, changing leaves in the fall, the sound of the wind, the warm sun or an insect in the room. Farmers, botanists, conservationists, biologists and environmentalists are mostly found to exhibit this type of intelligence.

The strategies and materials namely, nature observation, conservation practices, environment feedback, creation of habitats, sensory stimulation exercises, caring for animals and plants, collecting and classifying natural objects and organisms, etc. can be employed in teaching-learning to enhance students’ naturalistic intelligence.

**Existential Intelligence**

Existential Intelligence means individuals who exhibit the proclivity to pose questions about life, death and ultimate realities. They are concerned with cosmic or existential issues. They seek experiences in religious mythology, inclination towards life and death. They are able to relate themselves with the cosmos or the infinite. They are interested in ultimate realities. The characteristics of people with existential intelligence are highly introspective and attuned to their innerselves. They have a firm understanding of their own personal beliefs, preferences and convictions. They enjoy in school activities that provide them with a variety of experiences. They prefer to express themselves and their opinions as opposed to memorising facts and information. They are frequently motivated and are good at evaluating their own work. Philosophers like Aristotle, Einstein, Plato, Socrates, all Indian yogis and saints like Rishi Aurobindo, Vivekananda, Yogananda and Ramathirtha do have this kind of intelligence. In the learning environment, this kind of intelligence flourishes if the students are provided opportunities to ask ‘why’ and ‘what if’ kind of questions.

The strategies and materials like charity work, puzzle games, critical thinking questions, questions and answers game, read books in different languages, read about other cultures, draw or paint a scene from a story, write an opinion essay on a certain topic, guess, imaginative play, group discussion, etc. can be employed in teaching-learning to enhance existential intelligence of students.

**APPROACHES TO DEVELOP MULTIPLE INTELLIGENCE**

The following approaches can be used to develop multiple intelligences in the classroom.

1. **Lesson design:** Lesson design is followed in teaching learning process that involves team teaching by using all or several of the intelligences in their lessons, or asking student opinions about the best way to teach and learn certain topics.
2. **Interdisciplinary approach:** Interdisciplinary approach can be included on certain topics.
3. **Student projects:** Students can learn through projects to enhance their abilities.
4. **Assessments:** Assessments 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.
5. **Internships:** Internships can allow students to gain mastery of a skill gradually, with effort and discipline over time.

**IMPLICATIONS OF MULTIPLE INTELLIGENCE**

 The teacher while teaching in classroom can focus on multiple intelligences by making students realise their potential by enabling them to experience different outlets of learning. In using Gardner’s theory investing more time in planning and preparation might be necessary. Multiple Intelligence improves the learning potential of the students and when one learns, he/she not only uses one of these intelligences, but combinations of all nine intelligences.

The Multiple Intelligence approach acknowledges the individual differences while enabling students to meet the demand of the lessons. Students are thus able to accomplish their work and engage well in lesson activities. Moreover, there is a stimulation of their mind, thought processes, interests and highlights the individual’s talents and abilities which can be developed for further growth. Teachers themselves can enjoy and shape lessons in accordance with the students’ abilities and talents. It also helps teachers to cater to the diverse needs of the students in the class. Teachers can use every day events and real-life situations to improve the way their students learn. The approach, not only develops the students’ ability to speak, listen, write and read and it further magnifies their ability to sing, draw, think and express. In other words, it helps to cultivate a student’s full potential. The nine intelligences are thus able to synthesise and improve the student as a whole.

**CONCLUSION**

Teachers have a great role to play in enhancing the multiple intelligences of students in the classroom. Multiple intelligences encourage the development of creativity, problem-solving skills and social skills. Opportunities can be provided to students to express themselves artistically, involve them in open-ended projects, and make them tackle real-world problems using their unique intelligences. The knowledge of theory of multiple intelligences enables teachers in exploring deeply on curriculum transaction, assessment and pedagogical practices. It helps them to actively engage in developing new approaches. It also helps them to cater to the needs of different types of learners in the classroom. Teachers can reinforce all types of intelligences in all students and allow them for an individual learning process that will ultimately enable the learner to utilize their unique abilities and enhance learning process. Teachers should use different teaching strategies, diverse materials and variety of resources in the classroom that address multiple intelligences to cater to the needs of all learners effectively. They should also take steps to use multiple assessment methods, offer a conducive learning environment, and provide opportunities for students to explore their abilities and talents. By implementing multiple intelligence theory, teachers can create an inclusive classroom meeting the diverse needs of all learners which in turn makes teaching-learning process more effective.

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