

Multiple Intelligences Approach: A Way to Facilitate the Learner's Individuality

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Abstract

The main aim of education is to prepare citizens that make best use of their potentialities, skills and talents to upgrade themselves in all the three domains (i.e. cognitive, affective and psychomotor) and serve their country as well as world. This can be achieved only when each individual is valued for their capacities and abilities and progress them in a righteous way. Unfortunately, the present education system overlooks the desiderata of appraising individualities and stuck to the traditional method of teaching and learning that thwarted the actual growth of learner. Curriculum, teaching strategies and assessment techniques are the essential part and parcel of any education system, they have to be fashioned in such a way that it honours the gamut of capabilities of a learner. Multiple Intelligences approach has the endowment to meet all these requirements. Multiple Intelligences is the term first coined by **Howard Gardner** in his book(1983), **Frames of Mind: The Theory of Multiple Intelligences**. Gardner proposed that each person has different capabilities and proclivities in different areas and each individual has several (at least eight) types of intelligences. This approach provides the way to how to teach learners in a diversified manner and endorse their hidden talent and skills. This paper describes the way through which multiple intelligences approach can be incorporated into curriculum, teaching methods/strategies and assessment so as to enhance students' potentialities, skills and talents with valuing their individual differences.

KEYWORDS:Assessment, Curriculum, Individuality, Multiple Intelligences &Teaching methods/strategies.

INTRODUCTION

The main aim of education is to expose the inner potentialities of an individual to the outer world so that they may capable of coping with all situations in an eloquent manner. Inner potentialities can be evolved if the education is such that it gives complete academic freedom to the students or it can be said that, if it facilitates the notion of individuality. According to **Markovic (2012)individuality is a possession of unique value system and unique traits that are different from all others**. An acceptance of individuality means allowing him to express his thoughts freely and differently. Individuality can be supported through that education system that gives academic freedom. **Association of American Colleges & Universities (AAC&U, 2006)** defines academic freedom as,“**The academic freedom implies not just freedom from constraint but also freedom for faculty and students to work within a scholar community to develop the intellectual and personal qualities required for citizens in a vibrant democracy and participation in vigorous economy.**” Academic freedom is essential for supporting the notion of individuality. Each student is born with different interest, abilities and proclivities. They all have different ways to perceive the things which has been taught because they all have their preferred learning styles. Learning styles refers to how one received an information

and there are various ways to receive it. This requires that education system which provides students the freedom to acknowledge their potentials, proclivities, preferred learning styles. This can be possible if the part and parcel of education system i.e. curriculum, teaching methods/ strategies, techniques of assessment and evaluation are in the accordance with the notion of individuality. But, at present time the curriculum is rigid, it does not take account the importance of individual difference. All students are bound to study the same curriculum irrespective of their need, interest, abilities and location (urban/rural). Lecture method is mostly used in the classrooms and assessment is solely based on marks achieved in test/ exams. Due to this all students do not get benefitted and their development also hinders as they found helpless to present themselves in the way they feel most comfortable. All these adversities of present education system can be tackled with an innovative idea of Multiple Intelligences propounded by Howard Gardner in 1983 in his book *Frames of Mind: The Theory of Multiple Intelligences*. He proposed an entirely different concept of intelligence which possesses a challenge in front of traditional view of intelligence. This theory states that each individual possesses several types of intelligence in a different amount. Some of them are highly elevated and some are average or below average. All these intelligences can be developed to some extent. In an interview with Kathy Checkley(1997), **Gardner said, “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 another and is helping them use their minds well.”** Teachers, school administrators and parents can understand the learner more appropriately with the knowledge of Multiple Intelligences. They can provide the various interesting ways and environment that promote learning full of joy and also help students to direct their learning in their own preferred styles. **Curriculum, teaching methods and assessment techniques based on multiple intelligences have the potential to foster learner’s individuality and create a supportive learning environment.**

CONCEPT OF MULTIPLE INTELLIGENCES

The theory of multiple intelligences was proposed by **Howard Gardner**, a psychologist of Harvard University. This theory originates from the Harvard University’s Project Zero lead by H. Gardner to explore the nature of human potential and how it can be attained to it’s fullest. He describes his theory firstly in 1983 in his book *Frames of Mind: The theory of Multiple Intelligences*. He defines intelligence as, “the ability to solve problems or to create products that are valued within one or more cultural settings” (Gardner 2011). This theory challenges the notion of general and psychometric intelligence in three ways:

- i. There are several intelligences in an individual not just one.
- ii. Intelligence is expressed through performances, production of items and thoughts.
- iii. The expression of intelligence is also depending on the values, available opportunities and personal decision taken by individuals of a particular culture.

This theory proposed the pluralistic view of intelligence which asserts that each individual possesses several intelligences. In 1983 he describes the existence of seven intelligences and later on Gardner (1999) added one more intelligence named ‘Naturalist Intelligence’ and also discussed about the possibility of one more intelligence named ‘Existential intelligence’. Gardner (2011) set up some specific

criteria that each intelligence had to meet to be considered as full-fledged intelligence and not merely a talent skill or aptitude.

These are as follows:

- ❖ Potential isolation by brain damage.
- ❖ The existence of Idiots Savants, Prodigies, and other exceptional individuals.
- ❖ An identifiable core operation or set of operations.
- ❖ A distinctive developmental history, along with an identifiable set of experts “End-State” performances.
- ❖ An evolutionary history and evolutionary plausibility.
- ❖ Support from experimental psychological tasks
- ❖ Support from psychometric findings
- ❖ Susceptibility to encoding in a symbol system.

There is a brief description of each intelligence is given below:

1. **Linguistic Intelligence:** It is an ability to use the words effectively in oral as well as in written mode. They can express themselves eloquently through effective use of words. Storyteller, orator, politician, poet, journalist are the persons that have heightened linguistic intelligence.
2. **Logical- mathematical Intelligence:** It is an ability to use numbers and logic in an effective manner. These people are good at understanding of cause-effect relationship, manipulation of numbers and different operations. Scientists, mathematician, computer programmer are best example of person having high logical-mathematical intelligence.
3. **Spatial Intelligence:** It is an ability to perceive the visual world precisely and can ‘think in pictures’. This type of intelligence is highly developed in artist, architects, designers and sculptors.
4. **Bodily-Kinesthetic Intelligence:** it is the capacity to use body efficaciously. They use their whole body or part of it efficiently to express ideas, thoughts or to produce something. Players, athletics, sculptor etc. are having high bodily-kinesthetic intelligence.
5. **Musical Intelligence:** It is defined as the ability to perceive and discriminate musical form. Persons having high musical intelligence are sensitive towards the rhythm, pitch or melody. Composers, singers, dancers are having heightened musical intelligence.
6. **Interpersonal Intelligence:** People with high interpersonal intelligence are very much sensitive towards facial expression, gestures, tone and have the ability to respond to this in efficient way. Leaders and managers are having high interpersonal intelligence.
7. **Intrapersonal Intelligence:**It is an ability to understand one’s own feelings and emotion, strengths and weaknesses. Counsellor, therapists, psychologists has high intrapersonal intelligence.
8. **Naturalist Intelligence:** It is the capacity to perceive and classify the multifarious species- the flower, animal, trees, mountains etc. This type of intelligence is heightened in farmers, biologist, animal activist etc.

9. **Existential Intelligence:** It is an intelligence that deals with ultimate life issues such as does god exist? why we take birth? Why do we die etc. (but still it is not included as a complete intelligence, because there is no solid proof of its existence in the nervous system-one of the criteria for an intelligence). It is considered as a half intelligence.

MULTIPLE INTELLIGENCES BASED CURRICULUM

As Swami Vivekananda said, “Education is the manifestation of the perfection already in man”. It is clear from the quote that education is the means through which potentialities of an individual is exposed to outer world. This is thoroughly depending on the curriculum that runs in the institution to achieve this goal of education. Often people are confused with the concept of curriculum, they thought that merely the syllabus of academic subjects encompasses the domain of curriculum. According to Crow & Crow, “the curriculum includes all the learner’s experiences, in or outside the school that are included in a programme which has devised to help him developmentally, emotionally, socially, spiritually, morally”. Thus, curriculum is a combination of academic subjects and the experiences that students gained through multiple activities that executed in the classrooms, library, laboratory, workshop and in the formal and informal interaction between teacher and students.

In order to tackle with the real-world difficulties, it is necessary that curriculum should be well-updated. But it is ironic to say that curriculum which runs in our school/colleges is more inclined towards academic achievement only and pays less attention towards other necessary activities responsible for the personal, social, moral and cultural development. It gives less emphasis on pupil’s need, interest, proclivities and developmental history. Also, much importance has been given to the concept of inclusive education, but when it comes to curriculum, it is not much appropriate for children with disabilities/special needs. The existing curriculum confronts several questions such as-

- Is it able to cater the diverse need (related to interest, strengths, weaknesses, proclivities and social-cultural background) of students?
- Is it truly based on psychological principles of growth & development and learning?
- Is it able to develop the whole personality of students?
- Teaching methods used for transaction of knowledge are able to develop the skill of using learnt knowledge to solve real-life problems?
- Are the evaluation techniques being really helpful in assessing the real progress and achievements of students?

The most possible answer to these questions is simply NO. All these queries can be solved if MI approach is incorporated into curriculum. According to MI theory curriculum should be designed and transacted in such a manner that each and every student of the class is able to gain the knowledge with his/her preferred learning styles. If multiple intelligences approach is incorporated into curriculum the students are able to witness diversified experiences and develop an understanding that, which experiences appeal them most while learning. As students are able to receive the knowledge in the way that suits their learning style and start reflecting upon content according to their dominant intelligences. In many countries like America, China, Philippines, Japan and many more MI integrated curriculum in schools has given

amazing results. Hopper and Hurry (2000) described the effects of using MI approach- based curriculum in classrooms as:

- i. It increased the awareness about the learning process among students.
- ii. There is an increased emphasis on individual learning process.
- iii. Students begin stimulating the active learning process.

Armstrong (2009) said, “The best way to approach curriculum development using the theory of multiple intelligences is by thinking about how we can translate the material to be taught from one intelligence to another. In other words, how can we take a linguistic symbol system, such as the English language, and translate it--not into other linguistic languages, such as Spanish or French, but into the languages of other intelligences, namely, pictures, physical or musical expression, logical symbols or concepts, social interactions, and intrapersonal connections” Armstrong (2009) also proposed seven steps to create curriculum units using MI approach as:

- i. Focus on a specific objective or topic.
- ii. Ask key MI question.
- iii. Consider the possibilities (evaluate appropriateness of teaching methods).
- iv. Brainstorm (listing teaching approaches for each intelligences).
- v. Select appropriate activities.
- vi. Set up a sequential plan.
- vii. Implement the plan.

After figuring out some approaches of using MI theory into curriculum the researcher has also tried to prepare a framework of curriculum based on MI approach as:

Multiple intelligences-based curriculum					
S.No.	Intelligence	Teaching methods	Teaching resources	Evaluation and assessment techniques	Extra-curricular activities
1.	Linguistic	Lecture, discussion, story-telling, journal-writing etc.	Books, tape-recorder, writing tools etc.	Written and oral test.	Debates, poem reciting, extempore, writing competition etc.
2.	Logical-Mathematical	Problem-Solving, heuristics, calculation and quantification etc.	Calculators, math games, puzzles, riddles etc.	Performance test based on calculation and logical sequencing of content.	Quiz, science exhibition etc.
3.	Spatial	Demonstration of graphs, charts, diagrams, pictures-metaphor etc.	Graphs, maps, videos, clips, cameras, picture	Presentation of learned content through pictures and graphs etc.	Poster/ collage competition

			library etc.		
4.	Bodily-Kinesthetic	Hands on activities, tactile material and experiences.	Building tools, hardware, tactile learning resources	Activity-based exams.	Sport, games, field-trips, educational tours etc.
5.	Musical	Teaching through rhymes, chants, playing instrument, discographies.	Tape-recorder, musical instruments.	Creating songs, raps and chants of learned things.	Music concert & competition.
6.	Interpersonal	Co-operative learning method, simulations, peer-sharing etc.	Board games, party supplies, prop for role play etc.	Group projects, interviews etc.	Group projects, community work.
7.	Intrapersonal	Self-paced instruction, goal-setting sessions, individualized projects etc.	Self-checking materials,	Assessment based on personal feeling and reflection of the content.	
8.	Naturalist	Nature-walks, eco-study, field-trips etc.	Plants, animals, gardening tools, binoculars etc.	Application of learned content in natural settings.	Nature walks, picnic, museum visit.

MULTIPLE INTELLIGENCES AND TEACHING STRATEGIES

The main aim of education is to prepare a child to solve the problems of life effectively and lead a better and happy life. Children can solve the problems easily if they had learnt the things deeply with great understanding and for this it is essential that the knowledge which is given by the teacher should be in such a manner that it completely matches with the way which is compatible for students to grasp or assimilate that knowledge. But, in classrooms lecture method is the most commonly method used as the medium of instruction by teachers. Due to this most of the students in the classroom are not able to receive the content properly due to individual differences and they are compelled to cramp the information which is useful only for passing the examination and not for solving the real-life problems. MI (Multiple Intelligences) theory can give some relief from this. This theory suggests that no one set of teaching strategies/methods will be sufficient for all the students at all times, so there is a need to use the teaching strategies that fulfil the need of diverse learners. It seems necessary to recognize the student's intelligences in order to consider them, when designing for the teaching and learning process to enhance the students' learning performance (Y.R.

Ahvan et al.).Mbuva (2003) marked that MI approach should be used in 21st century teaching and learning environment. He suggested that MI based teaching and learning is effective at all grades. He also proposed in his study that while teaching, teacher should take account of the understanding level, language and culture of each student. MI theory provides an application of wide range of teaching strategies that can be easily executed in the classrooms and increase the achievement of students. Some of the teaching strategies appropriate for specific intelligence are as follows:

S. No.	Dominant Intelligence	Teaching Strategies
1.	Linguistic	Story-telling, brainstorming, tape recording, journal writing, discussion, lecture etc.
2.	Logical-Mathematical	Calculation and quantification, classification and categorization, heuristics, experiments etc.
3.	Spatial	Visual presentation, visualization, guided imagery sessions, picture metaphors, idea sketching, graphic symbols.
4.	Bodily-Kinesthetic	Project methods, hands-on learning, drama, dance, tactile activities etc.
5.	Musical	Rhythmic learnings, rapping, using songs, discographies etc.
6.	Interpersonal	Co-operative learning, peer-tutoring, community involvement, social gatherings, simulations etc.
7.	Intrapersonal	Individualized instruction, independent study, self-paced instructions, self-esteem activities etc.
8.	Naturalist	Field-trips, eco-study, nature study tools etc.

Below there is a sample of teaching the concept of '**Physical Change**' using MI approach:

Class: VIII Subject: Science

Objective: To teach the concept of Physical Change.

Teacher may use various teaching strategies to explain the concept of Physical Change using various intelligences as:

S.No	TEACHING STRATEGY	DOMINANT INTELLIGENCE	ACTIVITY
1.	Lecture	Linguistic	Teacher may tell the students the definition of physical change verbally as 'A change in which a substance undergoes a change in physical properties

			(shape, size, state) is called physical change. In this type of change no new substance is formed.'
2.	Experiment	Logical-Mathematical & Bodily-Kinesthetic	<p>a. Teacher may ask the students to crush a small piece of chalks into dust and then add a little water to the dust so it may become paste.</p> <p>b. Then students can make different shapes from that paste and dry them.</p> <p>c. Teacher may ask them that whether they get their chalk back from dust? (students say yes obviously). Through this concept will be clear to students.</p>
3.	Demonstration	Spatial Intelligence & linguistic intelligence	<p>Teacher can use PPT to explain the concept of physical change as:</p> <p>Slide1: A boy is scratching a wax from the walls of his balcony which he had lit yesterday night on the eve of Diwali.</p> <p>Slide2: He collect all the wax of different shapes and colours.</p> <p>Slide3. He melts the collected wax and pour it new moulds or container and left it for few hours for drying.</p> <p>Slide3: After sometime he got a new candle of different shapes and colour. (and in this way concept of physical change can be explained, using power point presentation).</p>
4.	Co-operative method	Interpersonal intelligence	Teacher may form groups of children(3-5 children) and ask them to interview each other about the experiences when they made things that are changed only in their shape, size and colour from their initial form.
5.	Rhythmic Learning	Musical Intelligence	Teacher may ask students to repeat the following musical mnemonic to understand the

			<p>concept of Physical Change: Physical change, visible change! Properties stay the same, Physical change, visible change! Not burning an object with flame..... Like cutting and slicing, And freezing, and grinding, Don't cause a change of trait, Not a change of molecules, But may be a change of shape... Physical change, visible change! Can sometime be reversed, No atoms are perverse..... Physical change, visible change! A change you sometimes see, change in texture, colour, shape or even density..... (source: sciencepoems.net/sciencepoems/physical change.aspx.)</p>
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MULTIPLE INTELLIGENCES AND ASSESSMENT

Assessment has its great contribution in the all-round development of children. It is the only process through which teacher/ parents will be able to know the progress of child. As Gardner has proposed that each student has several intelligences in different amounts and they receive and assimilate that knowledge in the way that make them comfortable as per their heightened intelligences. **Here's the question arises that- if students learn in different ways then how it is effective to assess their learning in the same (one) way?** Brualdi (1996) states that if student knowledge is assessed based on their learning style, it would allow for a wider range of students to prove that they have successfully participated in the learning process. Based on this, assumption can be made that it is likely that student enrolled in a course will typically far better when assessed using various intelligences unique to each student. He argues that it is unfair to the student whose learning style intelligence is anything other than the intelligences used for assessment. According to Howard Gardner (Armstrong 2009, p-130), "I believed that we should get away altogether from test and correlation among tests and took instead at more naturalistic sources of information about how people around the world develop skills important to their way of life." MI theory strongly recommended multiple ways of assessment to checkout the achievement of the students. This theory believes that students are able to show their expertise in a specific skill, subject or any domain in one or many ways. So, they can be assessed in at least eight different ways.

Suppose for example the objective is to assess the understanding of the concept of physical change, then teacher may use MI approach in evaluation as:

Class: VIII Subject: Science

Objective: To assess the understanding of the concept of 'physical change'.

S.NO.	Dominant Intelligences	Assessment Method
1.	Linguistic	Explain the concept of physical change through definition and example.
2.	Logical-Mathematical	Write the equation that represent the physical change.
3.	Spatial	Describe physical change through diagram.
4.	Bodily-Kinesthetic	Pick the cards (from the box that contained the pictures of chemical as well as physical change) that show physical change.
5.	Naturalist	Enlist the physical changes that occur in nature automatically.

Thus, if MI approach is used in assessment process then the students are free or motivated to express the learnt things in an effective way and may their fear of examination go away.

CONCLUSION

The main aim of education is the manifestation of inner qualities of an individual to an outer world and build them as a complete human being. Theory of Multiple Intelligences provides a theoretical background to recognize and enhance the capacities and potential in accordance with individual difference. This approach believes in fact that all individuals are smart but in different ways and also paved a path to how to facilitate them as per their need, interest and capacities. Including MI approach in curriculum, teaching methods and in assessment & evaluation methods lead to a joyful learning with solid base and great depth. Thus, it is a responsibility of all the teachers, administrators and stakeholders to embrace the MI approach in their educational programmes so as to enhance and motivate the capacities of students to righteous path and help them to be a competent and good citizen of nation and to make the world a happy place to live in.

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