

Each Student May Learn

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Abstract

Dr. Howard Gardner, Professor of Education at Harvard University developed in 1983 the theory of Multiple Intelligence. He criticised the notion that intelligence is a unitary concept. He held the view that the traditional notion of intelligence does not take into account the entire human potential. He mentioned that each human being is born with 8 intelligences. They spring from different areas of the brain. These separate intelligences have their specific sets of abilities. But all these intelligences are not equally developed in an individual. Dr. Gardener mentioned that each child is talented and has a unique way of thinking and learning. But his/her ways of learning are not addressed in verbally and logically mathematical dominated classrooms. He therefore, pleads that teachers should teach in a variety of ways to match his/her teaching style to match the learning style of his/her students. Learning style of a child is determined by highly developed intelligences and less developed intelligences. He therefore, highlights that there are eight pathways to learning. As such, students with different sets of intelligences are sitting in a classroom. The variety of ways of teaching would match different learning styles of students in a classroom. In this way each child in the classroom would get the opportunity to learn.

1. Need for Preparing Quality Teachers

Raising educational achievement of students in the fast changing global knowledge economy is the prime concern of every country in the world. It is being increasingly realised that 'in modern

knowledge economies, education is both the key driver of economic growth and a key social equaliser' (Asia Society 2011). Teacher quality is the biggest in-school contributor to student achievement. Further the quantified education system cannot exceed the quality of teachers.

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Therefore, we need to strengthen teacher preparation programme to turn out quality teachers. Prospective teachers need to be oriented properly as to how students learn differently and they have different learning styles.

Teaching is mostly didactic in our classroom. Teachers lay a great emphasis on strict content delivery or what is known as ‘sit and get’ approach. This is hardly an effective approach for facilitating effective learning on the part of students.

2. Traditional Concept of Intelligence

The traditional concept of intelligence is that it is a single general capacity for logical thinking, reasoning and use of language. It predicts school success. It can be measured and qualified using verbal and non-verbal tests. It was Binet who first developed in 1914 an intelligence test. He highlighted that Intelligence Quotient can be determined by the formula mentioned below:

$$IQ = \frac{\text{Mental Age}}{\text{Chronological Age}} \times 100$$

The most widely used intelligence tests provide a single score that reflects general intelligence (g).

Dr. Howard Gardner, Professor of Education at Harvard University developed in 1983 the theory of Multiple Intelligences. He highlighted that the traditional notion of intelligence does not take into account the entire human potential. He held the view that human beings are intelligent in more than one way. He therefore criticised the unitary concept of intelligence (g). Every individual has eight intelligences (8gs) instead of one ‘g’. He highlighted that

human beings possess eight distinct units of mental functioning. He labels these units as intelligences. They spring from different areas of the brain. ‘These separate intelligences have their specific sets of abilities which are observed and measured’. (Gardner, 1983)

2.1 Human beings are Smart in Eight different Ways

Gardner labels these intelligences as “smarts”. People are smart in a number of respects. They are word smart, number smart, picture smart, music smart, body smart, people smart and nature smart. No individual is smart in all these respects. Some are smart in respect of two or three abilities and they are weak or less smart in respect of other abilities.

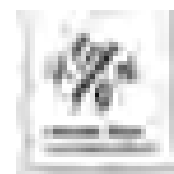
2.2 Eight Basic Intelligences or Eight Different Minds

Eight intelligences identified by Howard Gardner are highlighted below. Because of these different intelligences, it can be mentioned that individuals have eight different minds:

Linguistic Intelligence Word Smart



Logical Mathematical Intelligence Number/Reasoning/Logic smart



Spatial Intelligence Picture Smart



Bodily
kinesthetic
Intelligence

Body
Smart



Musical
Intelligence

Music
Smart



Interpersonal
Intelligence

People
Smart



Intrapersonal
Intelligence

Self-smart/
Self-reflection

Naturalist
Intelligence

Nature
smart/ an
experience
in the
natural
world



3. Different Kinds of Mind and Different Kinds of Jobs

Having different or eight kinds of minds is not a problem. Rather it is an asset. In our world, we have different kinds of jobs to be done. So it is good thing that 'there are different kinds of minds to do them' (Levine, 1993). This is rendering this world a wonderful place. Let us suppose that in this world, there are only people who are strong in Linguistic and logical mathematical intelligence and they are weak in other intelligences. These people will be good in mathematical operations and they will be orators. But then who

would do the job of a carpenter. In that case, there would be no musician or dancer. Similarly, if they are only people who are body smart, then the world would be deprived of mathematicians, speakers, preachers, etc. Then this world would not have been a happier place to live in.

4. Eight Pathways to Learning

As mentioned above, everyone is born with all the eight intelligences. But these are not equally developed in an individual. This means that different individuals are strong in two or three different intelligences and weak in other intelligences. Given below are sketches of brains of two different persons. 'This manifests clearly that each person brain is different'. (Hyggins and other, 1997) Sketch-1 manifests that the person is strong in Logical Mathematical and Musical intelligences and weak in other intelligences. Similarly, second Sketch-2 manifests that the person is strong in Spatial and Linguistic Intelligences and weak in other intelligences.



Sketch 1



Sketch 2

Gardner claims that these eight intelligences rarely operate independently. Rather these intelligences are used concurrently and typically complement each other as individuals solve problems. For instance a surgeon undertakes operations. For undertaking operations, he/she requires at least

three intelligences-Bodily kinesthetic, Spatial and Interpersonal to undertake the operations. Similarly, a dancer uses three intelligences – Bodily kinesthetic, Musical and Interpersonal.

4.1 Learning Styles of Students

In the context of a classroom, there are normally 40 students or so. These students come to the classroom with different sets of developed intelligences. This means that each child has unique set of intellectual strengths and weaknesses. This is commonly referred to as learning style of a student. Different strong intelligences of a student determine her/his learning style. Therefore the students with many learning styles are in a classroom. These sets of intelligences determine how easy or difficult it is for a student to learn information when it is presented in a particular manner.

According to Gardner, there are eight potential pathways to learning. Students do not learn only through traditional linguistic or logical ways of instruction. They also learn through pictures, music, physical experience, social experience, self-reflection and experience in the natural world.

In a situation, a teacher is experiencing difficulty in reaching a student through traditional linguistic or logical ways of instruction, he/she should use other ways which involve learner's talent(s) in other areas to facilitate effective learning on his/her part. Thus, Gardner suggests that these are eight pathways to learn rather than two believed traditionally.

Implications of the theory of Multiple Intelligences in the Classroom – Role of Teachers

The theory of multiple intelligences acknowledges that all the students are not linguistically or mathematically gifted. Therefore, all cannot learn through traditional transactional approaches which involve pupils' only two intelligences - linguistic and logical - mathematical. Teachers should transact the curriculum in a wide variety of ways using the following transactional approaches:

<i>Transactional Approach</i>	<i>Beneficiaries</i>
Role Play	Pupils having high bodily kinesthetic intelligence
Cooperative learning	Pupils with high interpersonal intelligence
Songs / Music	Pupils with high musical intelligence
Art Activities	Pupils with high artistic spatial intelligence
Activities – Learning by doing	Pupils with high bodily kinesthetic intelligence
Field trips	Pupils with high natural intelligence
Inner reflection	Pupils with high intrapersonal intelligence
Pictures, graphs and other Visual Materials	Pupils with high artistic spatial intelligence

5. Every Student has potentialities to Learn

The theory of multiple intelligences amply demonstrates that there are many ways students learn. The theory further highlights that each student learns when teacher's way of presenting content matches students' learning style. Gardner mentions that all the over the world teachers teach in such a way that only those students who are strong in linguistic and logical mathematical intelligences learn the best. Others, who are talented in other intelligences but weak in linguistic and logical mathematical intelligence, hardly learn appropriately. Many of these students are labeled as 'learning disabled or under-achievers'. These students' have their unique ways of thinking and learning. These ways are not addressed by heavily dominated logical mathematical and linguistic classrooms.

The theory suggests that every student has the talent to learn. So instead of labeling students as 'learning disabled' or 'under-achievers' teachers need to be trained to present their lessons

in a wide variety of ways using music, cooperative learning, art-activities, role play, multi-media, inner reflection etc. This would facilitate effective learning on the part of all the students. This is because it engages most or all the intelligences.

6. Instilling Belief among Student-teachers that Every Student can Learn

Instruction is impacted directly by beliefs of teachers about learning. Normally teachers in our schools believe that all students in the class cannot learn. This is because some students' level of intelligence is very low. Theory of multiple intelligences guides us that every individual is talented. Individuals are talented in eight different ways. Learning is perceived and received in more than one way. There are eight pathways to learning. Colleges of education both at the elementary and secondary level need to instill belief among their student-teachers that every child can learn. They need to be provided suitable experiences to teach in a variety ways.

REFERENCES

- Asia Society – Partnership for Global Learning. 2011. *Improving Teachers' Quality Around the World: The International Summit on the Teaching Profession*.
- BINET, A. and T. SIMON. 1916. *The Development of Intelligence in Children*. Baltimore: Williams and Wilkins.
- GARDNER, H. 1983. *Frames of Mind. The Theory of Multiple Intelligences*, New York: Basic Books.
- _____. 1993. *Multiple Intelligences. The Theory in Practice*. New York: Basic Books.
- _____. 1991. *The Unschooled Mind: How Children Think and How Schools Teach?* New York: Basic Books, Inc.
- LAZEAR, DAVID. 2000. *Pathways to learning: Teaching Students' and Parents about Multiple Intelligences*. Tucson, Arizona: Zephyr Press.
- LEVINE, MEL. 1993. *All kinds of Minds: A Young Student's Book about Learning Abilities and Learning Disorders*. Cambridge, MA: Educators Publishing Service.