

## Varying Ways Students Learn – Need for Adjusting Instructional Approaches to their Ways

Dr. Bharti Dimri<sup>[1]</sup>  
Sunil Kumar Pandey<sup>[2]</sup>

### I. INTRODUCTION

There are varying ways of learning, moreover there are various factors that affect it. The interplay between intelligence, learning ways and teaching methods make teaching learning a sophisticated process where educationist need to plan all the aspects of the process meticulously. The present paper touch upon various dimensions of the learning process however it focuses on better understanding of learners capabilities and varying ways they adopt. Furthermore the paper will help teachers to change or modify their instructional approaches to adjust properly for better learning by the students.

### II. LEARNING PROCESS OF INDIVIDUALS

How does a child learn? Nobody is certain. This is primarily due the reason that the learning process is invisible. However, learning outcomes can be determined either through a written or verbal test. Over the years, scholars have been struggling to understand as to how human beings learn. They have evolved a number of learning theories which explain how students learn. But there is no single theory of learning.

### III. HUMAN INTELLIGENCE

Throughout the 20<sup>th</sup> Century, psychologists have studied the nature of human intelligence as a way to predict school performance. Binet and Simon (1916) developed an intelligence scale. The scale measured intelligence as a single trait. The intelligence of an individual is quantifiable through the use of this scale. According to Binet and Simon, an Intelligence Quotient (IQ) of an individual can be determined by dividing his/her mental age by chronological age and multiplying the sum by 100.

$$I.Q.= \frac{Mental\ Age}{Chronological\ Age} \times 100$$

The Intelligence level of an individual predicts his/her school success. Higher the level of intelligence quotient of an individual, the higher will be his/her learning outcome.

#### *Theory of Multiple Intelligences*

Howard-Gardner – a Professor of Education at Harvard University –USA, published in 1983 the book titled ‘Frames of Mind – Theory of Multiple Intelligences. He challenged

the traditional concept of intelligence that it was a single general capacity for logical thinking, reasoning and use of language. He held the view that the traditional notion of intelligence is too narrow. He advocated that intelligence of an individual comprises eight mental abilities which spring from different areas of the brain. These intelligences are linguistic, logical – mathematical, spatial, bodily – Kinesthetic, musical, interpersonal, intra-personal and naturalist.

**Table 1:** Eight Intelligence

1.Linguistic Intelligence	Word Smart
2.Logical Mathematical Intelligence	Number/Reasoning/ Logic Smart
3.Spatial Intelligence	Picture Smart
4.Bodily Kinesthetic Intelligence	Body Smart
5.Musical Intelligence	Music Smart
6.Interpersonal Intelligence	People Smart
7.Intrapersonal Intelligence	Self Smart/ Self-reflection
8.Naturalist Intelligence	Nature Smart/ an experience in

#### *Each Person Brain is Different*

Each Child is born with all the eight intelligences. But all of them are not equality developed among them. Some of them are strong and others weak in the remaining ones. Given below are sketches of brain of two individuals:

Sketch-1 manifests that individual has logical mathematical and musical as the dominant intelligences. Sketch-2 reflects that artistic – special and logical mathematical are the dominant intelligences of the individual.

Although these intelligences are anatomically separated from each other. Gardner claims that these intelligences rarely operate independently. Rather these eight intelligences are used concurrently and typically complement each other as individuals develop skills or solve problems. For instance, a dancer can excel in her/his art only if she/he has strong 1) musical intelligence to understand the rhythm and variations of the music, 2) interpersonal intelligence to understand how she/he can inspire or emotionally move the audience through movements as well as 3) bodily kinesthetic intelligence.

The eight intelligences are not fixed. As children grow in age, any of the strong intelligences may become weak and any of the weak intelligences may become stronger. Given below is profile of multiple intelligences of students at different levels of education.

#### *Profile of Students’ Multiple Intelligences*

Teale (1992) determined multiple intelligences possessed by

<sup>[1]</sup> Principal, Pradeep Memorial College of Education

<sup>[2]</sup> Assitt. Prof., Pradeep Memorial College of Education

the students in different grades. She used her inventory of multiple intelligence to identify students’ dominant intelligences. The profile of students’ multiple intelligences are revealed from her study is presented in table 2 given below:

**Table 2:** Students’ Profile of Multiple Intelligences

SLNO.	Intelligence	Mean Scores of Students at Different Grades			
		Pre-Primary	Primary	Upper Primary	HS
1	Linguistic	4.09	3.48	2.73	2.74
2	Logical Mathematical	4.05	3.66	3.04	2.86
3	Spatial	4.76	4.89	4.83	4.52
4	Musical	3.32	3.84	3.82	3.66
5	Bodily - Kinesthetic	4.39	4.75	4.76	4.98
6	Interpersonal	3.39	2.95	3.28	3.54
7	Interpersonal	3.93	4.39	5.48	5.58

Table 02 Manifests that pre-primary stage students’ most domain intelligences were spatial, bodily-kinesthetic, linguistic and logical-mathematical. On the other hand, students at primary stage possessed strong spatial, bodily kinesthetic, interpersonal and Musical intelligences. High school students were strongest in interpersonal, bodily kinesthetic, spatial and musical intelligences. The table further reveals that the students at the pre-primary level had a lower mean score (3.93) on inter-personal intelligence than the students in primary grades. Students at upper primary level had higher mean scores in interpersonal intelligence than the students in primary grades.

It is quite clear from the table that mean scores of students in logical mathematic intelligence tends to decline as students move from pre-primary to high school level. On the other hand, Bodily Kinesthetic Intelligence tends to increase from pre-primary to higher grades. Further spatial intelligence was very strong in all the grades. The study further reveals that students enter into pre-primary school with strong linguistic and logical mathematical intelligences, but when they exit at the high school level, these intelligences have a sharp decline affecting their information processing. However, these two intelligences are pre-dominantly emphasized through the education system.

**IV. EIGHT PATHWAYS TO LEARNING**

The psychometric approach focuses primarily on two ways of learning – linguistic and logical mathematical according to theory of multiple intelligences. Eight Intelligences are in fact potential eight pathways to learning. In a classroom, there may be number of students say 40. Each student has his/her own unique set of intellectual strengths and weakness. Each student processes/information in the classroom depending upon his/her unique set of dominant/strong and less dominant/weak intelligences. Gardner (1983) stated that individuals are capable of learning in eight different ways.

According to Gardner, our schools and culture focus most of their attention on linguistic and logical mathematical intelligences. As such, all over the world, teachers teach in such a way that those students who have strong linguistic and logical mathematical intelligences learn the best. Others who are weak in these two intelligences end up being labeled wither ‘learning disabled’ or ‘under achievers’. They may be

strong in other intelligences. Their unique ways of thinking and learning are not addressed by heavily linguistic or logical mathematical classroom. Those students suffers for no fault of them.

**V. STUDENTS LEARN DIFFERENTLY AT DIFFERENT GRADES**

Now it is widely recognized that all students can learn but not in the same way and not on the same day (Sue, 1999). This necessitates the use of different instructional approaches at different levels. There is no one way to teach all students. Table 3 given below illustrates as to how students learn in pre-primary, primary, upper primary and higher school grades.

**Table 3:** Students Learn Differently in Different Grades

SI. No.	Grade	Dominant Intelligences	Students Primarily Learn Through
1	Primary	Spatial and Bodily Kinesthetic	Enjoy art activities, reading maps, charts, and diagrams etc. Process information through their bodies requires hands on learning, games, movements.
2	Upper Primary	Interpersonal, Spatial, Bodily Kinesthetic	Learn best by participating in cooperative/collaborative tasks, pictures, charts, games, handson experiences etc.
3	Secondary	Interpersonal Bodily Kinesthetic	Learn best by participating in collaborative tasks, learning together in groups, games, hands on experiences, laboratory experiment, etc.

**VI. INSTRUCTIONAL APPROACHES TO ADDRESS VARYING WAYS OF LEARNING**

The Quality of education particularly at the school level is low. There is learning crisis in India. Children from the disadvantaged sections of society are the worst hit by this low quality of education. This is because 90 percent of children belonging to disadvantaged sections of society remain illiterate even after four years of schooling’ (UNESCO 2014)

The low quality of education is the matter of serious concern. It has impeded the realization of the goal-quality education for all by 2015. The issue of low quality education needs to be addressed so that the country is able to achieve quality primary and secondary education for all by 2030.

Of the inputs to improve the quality of education, teacher quality is the most significant. Colleges of education in the country need to produce quality teachers who are capable to transacting curriculum in the classroom in the manner that student with different dominant intelligences are able to receive and process the information effectively. Teachers should present their lessons in a variety of ways using art activities, role play, cooperative learning, music field trips, inner reflection, multi-media etc. Teachers in different grades say pre-primary, primary, upper primary and secondary level should present their lesson(s) through mode/activities in which they learn effectively.

Further students sitting in one classroom have different sets of developed intelligences. These sets determine how easy (or diffident) it is for a student to process information when it is presented in a particular manner. This is commonly referred to as a learning style. Therefore, in a classroom, there are students with different learning styles. Every one learn in

a personal and highly individual way. No two individual have the same profile of intelligences and process the information in the same manner. Teachers should therefore, present subject matter in a variety of ways, as mentioned above so that each students learns. It is not practically possible for a teacher to accommodate every lesson to all learning styles of students. But never-the-less, the teacher should make efforts in this regard. “If a teacher does not present the lesson in ways that student can understand, their learning can be delayed which often leads to frustration. If students do not experience academic success, they may stop trying to learn and begin shut down educationally” (Sue 1999).

## VII. REFERENCES

- Gardner, H. (1983). *Frames of Mind: The Theory of the Theory of Multiple Intelligences*, New York: Basic Books
- Gardner, H. (1999a). *The Disciplined Mind: What all students should understand*, New York: Simon & Schuster.
- Gardner, H. (1999b). *Intelligence reframed: Multiple intelligence for the 21st century*, New York: Basic Books.
- Gardner, H. (1995, November). *Reflection on Multiple Intelligences: Myths and Messages*, *Phi Delta Kappan*, 77 (3), 202-209.
- Gardner, H. (1997, September). *Multiple Intelligence as a Partner in School Improvement*. *Educational Leadership*, 55(1), 20-21.
- Huggins, Pat et al (1997) *Multiple Intelligences – Helping Kids Discover the Many to be Smart*, USA: Sporis West
- Silver, Harvey F. Strong, Richard, W., Perieni, Matthw J. (2000) *Integrating Learning Styles and Multiple Intelligence*. USA: Silver Strong and Associates Inc.
- Sue Teele (1999) *Rainbow of Intelligences – Exploring How Students Learn*, Thousand Oaks, C.A.: Crowin Press
- UNESCO (2014), *EFA Global Monitoring Report – France: UNESCO*