

Harmonizing the Model of Education to befit the ICT Age

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Abstract

The advent of newer technologies is rapidly changing the ways of doing business, the work culture, our social relations and is in fact impacting human life in multiple and complex ways. While the world of business and commerce has been fast in adopting the new culture, education seems to have lagged behind. This paper is an attempt to explore the underlying ideology of the current education system. The western model of education system which we are following was built to suit the needs of an industrial society and has become largely redundant in the current age of information and communication technology (ICT). The current education system is hypothesized on the concept of conformity to an underlying structure or an overarching scheme which refuses to integrate diversity of insights and cannot be easily integrated to a single overriding concern. The paper also focuses on the changes necessary to realign the education system to this age of the ICT. “Intelligence” is not a unitary concept but there are various kinds of intelligences. While the industrial society valued only certain kinds of intelligences, like logical, mathematical and analytical, other intelligences such as spatial, linguistic interpersonal were unrecognized. These other intelligences need to be given importance. In evaluation and assessment as well, there is a need to look away from notions of consistency, standardization and homogeneity to assessing creatively. The ‘traditional’ approach is essentially a mimetic one in which the teacher and the text are seen as unquestioned repositories of knowledge. Students were expected to memorise and reproduce information at a given occasion. Opposed to this is the creative-transformative approach to teaching –learning, which is more of a partnership in learning. The teacher engages the student actively in the learning process, posing questions and directing attention to a new phenomenon in the hope that understanding process is enhanced.

Teaching- Learning in the New Age

The present education system is hypothesized on the concept of conformity to an underlying structure or an overarching scheme which refuses to integrate diversity of insights. It is unipolar in nature and chooses to ignore multiplicity of reality which cannot be easily integrated to a single overriding concern. It is based on the ideals of conformity, uniformity and homogeneity which were the demands of an industrial society to which it catered. Built and developed for an industrial age, the language of the present education system is the language of industrialization. It talks in terms of “batches” for students of a particular class, the idea of having uniformity etc. The idea of conformity contradicts creativity. If everything has to conform to some pre-existing pattern then creativity is restricted to just uncovering things that are already there. In syllabus, methodology and evaluation the current education system centres on the notions of consistency, standardization and homogeneity. The new age of Information and Communication Technology (ICT) requires a paradigm shift in the traditional methods of teaching- learning

Thomas L. Friedman, the author of “The World Is Flat”, refers to the twenty-first century world that is very different from the one in which we were educated. To survive in a new, globally competitive world, today's generation will need creativity, problem-solving abilities, passion for learning, a dedicated work ethic and lifelong learning opportunities. Students can develop these abilities through instruction based on Best Practice teaching strategies.

Relationships, rigour and relevance are the three things that the learning facilitator needs to focus on.

Intelligence has been defined in many different ways such as in terms of one's capacity for logic, abstract thought, understanding, self-awareness, communication, learning, emotional knowledge, memory, planning and problem solving.

Two contrasting approaches to education have dominated the scene. The ‘traditional’ approach is essentially a mimetic one in which the teacher and the text are seen as unquestioned repositories of knowledge. Students are expected to memorise and reproduce information at a given occasion. Opposed to this is the creative-transformative approach to teaching –learning, which is more of a partnership in learning. The teacher engages the student actively in the learning process, posing questions and directing attention to a new phenomenon in the hope that understanding process is enhanced.

Learning is not a spectator's sport. Learning happens in a variety of ways, from conversations, life experiences, personal thoughts, educational courses, working on projects, travelling and so on. There is not much difference between living and learning. Learning is a never ending cyclic process. The environment in which we are immersed today has changed drastically and there is a need to change the traditional concept of learning. Lack of attention to the nature of learning inevitably leads to an impoverishment of education. An exciting learning experience is a real and relevant context for learning. Learning becomes fascinating when young people take active engagement and responsibility for their own learning, increasing the impact and potential for future developments. Learning begins with some need and motivation to learn.

Teaching is not telling and learning is not listening: Students do not learn much by just sitting in the classroom, listening to teachers, memorizing and answering. In a typical Indian classroom students are seated in a systematic and synchronized manner in benches and desks arranged one behind the other allowing least mobility for both students and teachers. As teachers are far off from the latter sections of the classroom, these sections are often neglected and are occupied by the distracted students. Non interactive, chalk-duster method with overcrowded classroom only results in students who are able to replicate information but who are not able to create knowledge. Our education system focuses on only the right or wrong answers to things. Instead, we need to pay heed to a less structured, more curiosity driven paradigm which focuses not on the absolute right or wrong but on the element of surprise.

Learning has to be fun: In his book titled by the name “Learning has to be Fun” by W. James, the writer elaborates on the various researches conducted on memory- on the types of things we remember and forget. Numerous researches

have concluded that we remember things learnt in pleasant situations and forget things learnt in unpleasant situations, thereby regaining and imprinting information in the brain at a higher rate when a person is relaxed and enjoying experience. Research also shows that what one enjoys doing one excels in doing it. This highly competitive world values efficiency and quality, which can be achieved by enjoying one's work and by doing what one likes. As Thomas Friedman puts it:

“No matter what your profession – doctor, lawyer, architect, accountant – if you are an American, you better be good at the touchy-feely service stuff, because anything that can be digitized can be outsourced to either the smartest or the cheapest producer.”

— Thomas L. Friedman, *The World is Flat*

Constructivism: Traditional education process based on old ideas has led to stagnation in learning experience. New times call for quality changes, focussing on key areas of learning. Today's education needs to be technologically fuelled by information driven knowledge. The need of the hour is introducing learner centred activities instead of a teacher or curriculum centred ones. Vygotsky in his book “Social Constructivism” emphasizes on the zone of proximal development (ZOPED). The main principles are emphasizing on learning and not on teaching; Encouraging learner autonomy; Personal involvement in teaching learning; Fostering learner's natural curiosity; Emphasizing experiential learning that is conducive to personal change and growth; Taking into account learner's interest in terms of their beliefs, attitudes and experiences. In addition constructivist's theory meaningful and relevant situations that provide learners with an opportunity to construct new knowledge from authentic experience. Students are encouraged to use prior experiences to help them form and reform interpretations making knowledge or dynamic attribute.

Bloom's Taxonomy classified six parameters namely knowledge, comprehension, application, analysis, synthesis and evaluation in the hierarchy of learning. Loris Anderson, in 2001, reviewed Bloom's Taxonomy and incorporated a few changes in the names of the six major categories. The modified categories by Loris Anderson were- remember, understand, apply, analyse, evaluate, and create. The noun forms of categories were changed to verb forms as it reflected thinking as an active process. So a verb terminology was considered more appropriate.

The categories can be explained as follows:

Remember: Recall, restate, remember by listing, memorising, locating, reading, writing, choosing, sketching.

Understanding: Learner takes information ahead being an active recipient and by grasping meaning of an information by interpreting and translating what they have learned by inferring, summarizing, comparing, explaining.

Applying: Learner uses information in a different context from the one in which is imparted.

Analysing: Learner breaks information into parts and understands the information in the best ways by comparing, organizing, deconstructing and integrating.

Evaluating: Learner makes decisions based on in- depth analysis, reflection, hypothesizing, judging, critiquing, experimenting, monitoring.

Creating: Learner creates new knowledge, through designing, devising, planning, constructing and producing, by using information that was previously learnt.

Multiple Intelligence Theory:

The Multiple intelligence theory proposed by Prof. Howard Gardner defines intelligence “as the ability to solve problems or to create products that are valued within one or more cultural settings.”

Traditional school and education which have been cognitively based relying on verbal and logical mathematical intelligence of students, and those students who are not good in these two skills either go unnoticed or their potential is not tapped. Gardner’s Theory of Multiple Intelligence proposes that students vary in their abilities, learning styles, and interests and these differences need to be acknowledged and matured. The educational bench mark needs to broaden its horizon to include other skills and intelligences. The bench mark need not be lowered but altered to include assessment of a broader spectrum of Learners. Multiple intelligence theory can act as a tool in the hands of a learning facilitator to restructure the teaching learning process that will make the learners active participants in learning by virtue of appropriate activities that do not exist in the traditional set up. Gardner’s pluralistic intelligence suggests that people possess at least 8 different intelligences that operate in varying degrees depending upon the inclination and aptitude of each individual. Gardner’s very interesting quote is:

“It is not how smart you are that matters, what really counts is how you are smart”

The eight kinds of intelligences listed by Susan B , Julie V, Barbara S, in association with Prof. Howard Gardner in their book *Multiple Intelligences in Elementary Classroom*, constitute the following- Spatial, Linguistics, logical-mathematics, Bodily-kinaesthetic Musical, Interpersonal, Intrapersonal, Naturalistic.

Spatial : Spatial intelligence deals with spatial judgements and with the ability to visualize with the mind’s eye. The key abilities involve perceiving and transforming visual or three -dimensional information in the mind, it allows for recreation of images from the memory. Artists, Architects, Designers, Film Directors - all have a greater spatial intelligence.

Linguistic: This intelligence concerns with the ability to use language and words effectively either spoken or written. Their sensitivity to the nuances and subtle meanings and shadings of languages is immense Poets, authors, writers, journalists&lawyers display this intelligence to a greater degree.

Logical- Mathematical: This intelligence has to do with abstractions, reasoning and numbers. People with this intelligence have a greater facility with numbers, and logical thinking. Engineers, scientists, physicists, chess champions, computer programmers have more of logical mathematical skill.

Bodily- Kinesthetic: This skill deals with a greater control over bodily movements, motios,a greater capacity to handle objects skilfully, a sense of timing and greater

reflexes. Professions which require these skills include athletes, dancers, musicians, surgeons etc.

Musical: Sensitivity to sounds, rhythms, tones pitch, meter, melody. Effective ability Perceive sound patterns. Professions like Singers, Disc Jockeys, Composers need it immensely.

Interpersonal: This has to do with interactions with others. These people are extroverts, are sensitive to other's moods, feelings, temperament & have an ability to cooperate and empathize. These people make very good Salespersons, Public relations officers, Human resource managers, Teachers, Social workers etc.

Intrapersonal: These people are introspective by nature, self- reflexive, intuitive and introverted. They are capable of deciphering their own feelings, have a deep understanding of self their own strengths and weaknesses. Philosophers, writers, display greater intrapersonal intelligence.

Naturalistic: This intelligence relates to nature, love for natural beauty, sensitivity to environment and natural surroundings. Gardeners, Botanists, Farmers need it most

All the eight intelligences are independent and they develop at different times indifferent people and in different degrees. However they are closely related and when a person becomes proficient in one kind of intelligence the other kinds are also stimulated and enhanced. Creating a rich mature and stimulating environment in the classroom filled with lots of activities, games, quizzes, books lays a foundation for a healthier learning.

A Multi intelligence resource centre can be created in every institution which keeps a data bank of the different intelligences of students. This centre can organize programmes catering to all the above mentioned intelligences, call experts who can groom the students and guide them in their choice of career.

Prof.H. Gardner also says that the present education system suffers from three biases "Westist", "Testist", "Bestist", "Westist" bias is putting certain western values like competitiveness, individualism, commercialism in the fore front. "Testist" involves focussing upon those human abilities or attributes that are easily testable; and "Bestist" is the labelling of the brightest and the best only. It is important to nurture all the varied intelligences to have a better chance of teaching appropriately

While teaching involves all these afore mentioned intelligences, it is important to cherish the age old values of truth, beauty and goodness, especially in a culture where the "Me" is more valued than the "We". An academic institution, focuses only on the intelligence of its students, a little importance to the emotional quotient also needs to be considered. Students show a lot of courage, determination grit, honesty, helpfulness in their personal life. These qualities also need to be acknowledged, valued and honoured.

Guru –Shisya Parampara/Mentoring:

What has now become a cherished methodology of teaching –learning in the so called "B-Schools" is something which we Indians practised since the Vedic times. They call it Mentoring, we called it Guru Shisya parampara.

“The fact is, parents and schools and cultures can and do shape people. The most important influence in my life, outside of my family, was my high school journalism teacher, Hattie M. Steinberg. She pounded the fundamentals of journalism into her students -- not simply how to write a lead or accurately transcribe a quote but, more important, how to conduct yourself in a professional way. She was nearing sixty at the time I had her as my teacher and high school newspaper adviser in the late 1960s. She was the polar opposite of "cool," but we hung around her classroom like it was the malt shop and she was Wolfman Jack. None of us could have articulated it then, but it was because we enjoyed being harangued by her, disciplined by her, and taught by her. She was a woman of clarity and principles in an age of uncertainty”.

— Thomas L. Friedman, *The World Is Flat: A Brief History of the Twenty-first Century*

Mentorship is a personal developmental relationship in which a more experienced or more knowledgeable person helps to guide a less experienced or less knowledgeable person. However, true mentoring is more than just answering occasional questions or providing ad hoc help. It is about an ongoing relationship of learning, dialogue, and challenge. Mentoring is a process that always involves communication and is relationship based. It is a term meaning someone who imparts wisdom to and shares knowledge with a less experienced colleague. Adoption of a mentoring system would provide a one to one, meaningful relationship between a teacher and a learner and help the learner to accomplish not just career goals but also a meaningful life. This is an approach which breaks the rut of rote learning, for the 21st century belongs to the creative people. An idea is what can change life and the world. The century is valuing newer ways of thinking, fresh outlook and an imaginative mind set and it is high time that the present education system accepts this and modifies itself accordingly.

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