THE 21st CENTURY CLASSROOMS: TECHNOLOGY OR THE TEACHERS

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ABSTRACT

The place and the space of the Classrooms right throughout the world are changing with the massive use of Information technology tools and devices ion our day to day thus proliferating the use of it in the classrooms .In the Indian settings although because of many handicaps of the socioeconomic domains are not that forthcoming to change and to be as per the new western society, yet the beginning is made. In all this scene a demand is emerging is the technology or the teachers are to be in the classrooms of the 21st century and the development of the Social networking is playing a major role in the development of this trend. A time is now not only ripe for the class rooms to be changed but also for the both social actors –teachers as well as the Students are to be reciprocative to this trend happening because of the social media .This paper deals how the development of the social media and the social networking are to be instrumental in the knowledge society being shaped in the classrooms.

Key words: Information Technology, Knowledge Economy and Society, Social Media and Net Working, Teacher Education.

The 21st Century – A Change from the Past

As we move further into the new millennium, it becomes clear that the 21st Century   needs are very different from the 20th Century needs. It has happened because of the needs which the new society could create because of the interaction between the evolution of technology and the development of economy and society and is an important dimension of human history. The transition from the agricultural society towards the industrial society provides the most pertinent illustration of the profound implications, which the full diffusion of new technologies can have on family structures, work relations, settlement patterns, economic and political power configurations, and also on behaviour patterns and value systems. Looking ahead towards the next ten years or so, the main driving force for economic and social change will be information technology. After a quarter of a century of gradual development and diffusion, many believe that information technology is on the verge of a new take-off. This is partly due to genuine technology evolution; however, it is also partly the result of changing economic and social structures. These are increasingly adapting to the new organizational and institutional patterns required for the full and most effective use of the new technology, thereby contributing now to the push for further technological progress. In the sociology text it says, "Technology is changing our society and our everyday lives" including our classrooms . In the 21st Century classroom, teachers are to be facilitators of student learning and creators of productive classroom environments in which students can develop the skills they will need in the workplace.

Globally, we live in a society which is continually evolving and yet, somehow, it has become generally accepted that schooling should not change. Many still hold expectations that what "used to work" remains appropriate. But we are not the same, we are different because of the needs and the situations which sets are apart from the past. Likewise the world is different too. Does one refuse to wear a pair of new shoes when one pair is worn out or outgrown? It doesn't mean the old shoes are bad , they just don't serve their purpose any longer. Similarly, the schools are same but the 21st century has turned them into a

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centres of divergent and collaborative learning. So, the , classrooms of the 21st century are different from the classrooms of the 20th century, which was only teacher centric and lectures on a single subject at a time were the norm. The focus of the 21st Century classroom is on students experiencing the environment they will enter as 21st Century workers. The collaborative project-based curriculum used in this classroom develops the higher order thinking skills, effective communication skills, and knowledge of technology that students will need in the 21st Century workplace. The interdisciplinary nature of the 21st Century classroom sets it apart from the 20th Century classroom.

The 21st century is widely acclaimed as 'knowledge century era' as the knowledge is becoming a buzzword in every activity. Every nation, rich or poor, developed or developing is finding itself pitched in a competitive and globalised environment wherein the information and its access, the research and the innovations taking in the labs and the classroom transforms the society and whereby the education not only for a specific period of time but a lifelong and a recurrent education are not only important but emphasized and practiced. Etymologically, the word education means just a process of leading or bringing up . . . we speak of education as a shaping, forming, molding activity - that is, a shaping into the standard form of social activity . . . The required beliefs cannot be hammered in; the needed attitudes cannot be plastered on. But the particular medium in which an individual exists leads him to see and feel one thing rather than another; . . . Thus it gradually produces in him a certain system of behavior, a certain disposition of action."Raymond Williams states, "Schools … not only process people, they process 'knowledge' as well." As Michael Apple explains, they act as agents of cultural and ideological hegemony, as agents of selective tradition and cultural incorporation. . . . They help create people (with the appropriate meanings and values) who see no other serious possibility to the economic and cultural assemblage now extant.

A Change – A Need or a Desire?

The education system which we are continuing in most of the context of teaching-learning in the developing and the under developing nations is based on 20th century factory based model of education (UNESCO, ICT in Teacher Education, 2002), whereby the large number of individuals are trained in the skills needed for low skilled positions in industry and agriculture. It is a teacher centric, less information and more memorization based model. It was precisely a model to prepare a class of individuals having 'mediocrity of intellectualism; teacher's information and book processing. In this process of Learning, the application of the information for the self realization of economic, social and moral goal is too limited and the learners hardly find anything to work upon. It is way to produce degree and jobs seekers rather than job providers and self initiatiors having inquisitiveness for innovation or experimentations. India, like many other countries is also following this model of learning which is basically meant to create 'Middle Level Cadre' job fills of the erstwhile British Raj type and this sort of education is still looming large on Indian teaching – learning process on a large basis including the state in reference.

Of course, it is not that students or teachers who are to be blamed only for it but to the total system of education which has failed to board the bus of the day for the onward successful journey of 21st century . Why failure happened? The reasons for this can be the apathy of teachers because of the non responsive policy on account of teacher education at the national level. This was also supplemented by the lack of necessary infrastructural facilities such as labs, equipments, library facilities etc and it encouraged the students to do things in a stereotyped fashion, with complete attention for producing best results by obtaining good marks in examinations. They have information but not the necessary skills to apply them for making society to find and achieve the desired goals of education. But recently with the Introduction to the Examinations Reforms by MHRD and replacing of the marks with the Grades will not only help the

teachers to come up with a changed role and strategy for teaching where in the aim would be the cultivation of the Knowledge rather than the information. As per the examination reform NCF(2005), " a system of education and the examination that teaches members of the disadvantaged groups the requisite problem solving and the analytical skills needed by the job market is vital. Memorising and regurgitating textbooks is not the skill needed by the job market. An exam system that encourages this type of learning snuffs out creativity .To teach skills and create excellence is the way –perhaps the only sustainable way toward equity." So, the Indian system very slowly but temped to adopt the new need of change for bracing for the 21st century class rooms.

The Defects in the Indian Classrooms

An old adage state, "Tell me and I forget, show me and I remember, involve me and I understand". The last part of this statement is to be understood in the changed role of the classroom contexts for teaching. Now, the emphasis, is not only to narrate the textual based facts and figures but how these facts and figures can really be useful and are applied in the day-to-day context of students' life is more useful and emphasised. Lave (1988) showed that learning is viewed as a function of the activity, context and culture in which it occurs and developing meta cognitive skills (Haiso, 1999) and to increase the meaningfulness of students' classroom learning (Schoenfeld, 1987). In Indian classrooms, another very glaring problem that is encountered is availability of good textbooks and other resource materials. The books available are "by and large run-of-the-mill products with age old facts (Pande, 1997). But these need to be replaced, as there is a shift in the paradigm from teaching to learning particularly in subjects like of math and science, as the methodology of teaching these subjects is faulty. Gupta (1996) carried out as a part of a large-scale study under DPEP (District Primary Education programme) and found that the 'knowledge' level of his sample of primary school teachers on a test of reading and mathematics was much lower than expected. In fact, the teachers did not themselves have these minimum levels of learning competencies, which they were striving to develop among their students.

The teachers in the present day should also have to work upon the information of the students in this way, and that is what we know is the philosophy and the theory of 'Constructivism'. In order to have this kind of the learning which may not only be based on the situations and the self initiatives as the teachers need to devise out these situations (Samashaya) and very important a good amount of the home work at their own ends how to get on with this kind of the system. It will not encourage the learners but also the teachers to face the challenges of the society because of the knowledge generations and the information processing.and as these require the professional competence and commitment for this system, Delors Commission (1996) emphasized, "there is need to update and improve the teachers' knowledge". UNESCO World Education Report (1998) notes that there are indications that new technologies could have radical implications for conventional teaching – learning process. It notes that, in reconfiguring how teachers and learners gain access to knowledge and information, the new technologies challenge the conventional conception of both teaching – learning methods and approaches.

21st Century Class Rooms-A Place of New Learning

21st century class rooms are going to be the most interesting place of learning where not only the teachers are going to be very forthcoming but the students are also never to be feeling ever bore and monotonous. So "the 21st-century classroom," which is a reality today can make a remarkable difference in how teachers teach and learners learn. Children have the opportunity to take much more responsibility for their own learning as teachers move from being the sage on the stage to the guide on the side. This concept

is not about learning to use technology. It's about using technology to learn. In these environments, information and communication technology (ICT) becomes integral to the teaching and learning experience in the sense that it helps to define the very nature of the experience, which could not happen without it. So there are tangible and positive effects on teaching and learning.

Let's consider the elements of a 21st-century classroom.

- The Hardware Technologies
- The Software technologies
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- Interactive Whiteboard

The heart of a 21st-century classroom is the interactive whiteboard. It's the largest piece of technology and the focal point for whole-class teaching and learning. A world of information is available at the touch of a finger, whether it's on the Internet or through other media.

Projector

For best effect the projector should be permanently mounted in the ceiling or on the wall. This ensures that the interactive whiteboard and projector are oriented and ready to go every day.

Teacher Computer

The interactive whiteboard and projector connect to the teacher computer.

Student Devices

Whether it's one-to-one computing or several computers or devices available for sharing, the classroom isn't complete without devices for students to use.

Audio System

For excellent quality sound, having an sound enhancement system is a must. Having an audio system for the teacher can save not only her voice from strain, but it can eliminate some of the issues hard-of-hearing students may have that might otherwise be chalked up to learning difficulties.

Interactive Response System

Putting an interactive response system into each child's hands can accomplish a couple of things. First, a teacher can gain immediate feedback regarding student learning each and every day, rather than waiting for periodic test results. If students are not grasping a concept, then the teacher can address the topic again from a different perspective. Second, it can ensure that each child is participating and actively engaged.

The Software Technologies

Web2.0

The new Web, or Web 2.0, is a two-way medium, based on contribution, creation, and collaboration--often requiring only access to the Web and a browser. Blogs, wikis, podcasting, video/photo-sharing, social networking, and any of the hundreds (thousands?) of software services preceded by the words "social" or "collaborative" are changing how and why content is created. The Web 2.0 Landscape is varied. There are Web applications, social networking, content sharing, and more.

Open Source Content and Applications

- Allows users to add content to the Web
- Relies on a community that encourages reusing materials
- Tools for commentary/free expression—text, audio, video
- Tools for management

- Supports social networking

The Internet

The internet is a network of networks that consists of millions of private, public, academic, business, and government networks, of local to global scope, that are linked by a broad array of electronic, wireless and optical networking technologies. The Internet carries a vast range of information resources and services, such as the inter-linked hypertext documents of the World Wide Web (WWW) and the infrastructure to support electronic mail and other social media.

Social media

Social media is best understood as a group of new kinds of online media which share most or all of the following characteristics:

Participation

Social media encourages contributions and feedback from everyone who is interested. It blurs the line between the concept of media and audience.

Openness

Most social media services are open to feedback and participation. They encourage voting, feedback, comments and sharing of information. There are rarely any barriers to accessing and making use of content – password protected content is frowned on.

Conversation

Whereas traditional media is about "broadcast", content transmitted or distributed to an audience, social media is better seen as conversational, twoway.

Community

Social media allows communities to form quickly and communicate effectively around common interests – be that a love of photography, a political issue or a favourite TV show.

Connectedness

Most kinds of social media thrive on their connectedness, via links and combining different kinds of media in one place.

Social Networks

Social networks the websites allow people to build personal websites and then connect with friends to share content and communication. The best known example of a social network is Face book , MySpace, are made up of peers seeking and giving advice to make better decisions. The social Media is "how" and social networking is "what" technology. The social networks are going to be the major sources of new class room teaching learning situations in 21st century .

Blogs

Perhaps the best known form of social media, blogs are online journals, with entries appearing with the most recent first. The blogs are Personal reflection seeking feedback and Entries posted in consecutive order, newest on top, comments from readers extend classroom learning and it acts as Personal learning journal

Content communities

Communities which organise and share particular kinds of content. The most popular kinds of content communities tend to be around photos (Flickr), bookmarked links (del.icio.us) and videos (You Tube).

Wikis

These websites allow people to add content to or edit the information on them, acting as a communal document or database. The best-known wiki is the online encyclopaedia which has over 1.5 million articles published in English alone. Super easy collaborative and always is a knowledge building with Trackable page edits. Easy collaboration which is extended beyond classroom

Podcasts

Audio and video files that are available by subscription through services like Apple i-tunes.

Forums

Areas for online discussion, often around specific topics and interests. Forums predate the advent of the term 'social media' and are a powerful and popular element of online communities.

The Technology or the Teacher –The Choice

Technology has changed the way people get information, and the Internet allows learners to get information instantaneously. Access to all kinds of information is at their fingertips. Every day we see technology used as a tool outside of formal schooling for communication, collaboration, understanding, and accessing knowledge. New technologies are embedded into every aspect of our lives. But if you look at the classroom today, it really doesn't appear much different than it did fifty years ago. The traditional classroom is being challenged and must compete with the outside world to be a place of learning. Many teachers have overlooked the importance of technology in preparing their students for the future. If education can be seen as the passport to the future, then certainly technology must be included in education.

Technology is a tool that can help and enhance learning. By developing an integrated curriculum, we can ensure that the way students learn with technology agrees with the way they live with technology. Marc Prensky has given them (the students) the title of "Digital Natives." They are visual learners, multi-taskers, with short attention spans, who use technology to express themselves. They are information analysts, content producers, and real-time learners who prefer instant and text messages. Technology is very important in their lives. Technology is in a constant state of evolution and change. Access speeds, hardware, software, and computer capabilities all evolve and improve on a monthly basis. This change occurs at a rate at which it is impossible for schools to keep up and adapt. As we prepare our students, we need to look at what is really important. There's no need to teach skills. The skills are only as valuable as the application. If the application is updated, then the skills are outdated. What we want to do is teach our students how to think, how to problem solve, and how to approach new situations with strategies that will prove successful for them. Instead of asking the question "What technology skills must a students have to face the 21st century?" should we not be asking "What thinking and literacy skills must a students have to face the 21st century?" These skills are not tied to any particular software or technology-type, but rather aim to provide students with the thinking skill and thus the opportunity to succeed no matter what their futures hold. The Partnership for 21st Century Skills is the leading advocacy organization focused on infusing 21st century skills into education i.e., the media literacy. Educators must get over the idea that technology will replace them. Any teacher that can be replaced by a computer absolutely deserves to be because they just do not get it. I wish to quote Ian Jukes "For years, there was a belief going around that teachers would eventually be replaced by computers. The role of the teacher is going to change but they will still remain the most critical part of the education process. The issue is not so much replacing teachers with technology, but encouraging them to embrace it".

Jukes says:

1. It is time for education and educators to catch up, to learn the new digital world.

2. In the information age, students need to be both producers and consumers of content. We have to move beyond 20th century literacy to 21st century fluency— being able to use technological tools without thinking about it.
3. Educators need to shift their instructional approach from director to facilitator.
4. If we want understanding and comprehension, we must teach in a new way.
5. We need to let students access information natively. Just as calculators were scoffed in the 1960s, social networking is similarly cast aside in schools today— where it needs to be an integral part of learning.
6. Let kids collaborate.

Prepare them for *their future*, not *our past*. So, the technology is to be in the classrooms of the 21st century whether in the rural or urban settings as pivotal to the students to use it and asking the role of the teachers as the facilitators of the knowledge.

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