

Initiating Change- Choosing & Using Technology for Tomorrow's Classroom

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Abstract

The new millennium is ushered by dramatic technological revolution. Technologies like smart classrooms, electronic networks are slowly infiltrating the schools. This technological revolution has transit the society from oral & print to visual culture. For 21st century kids who are “always on”, education needs a shift from didactic view to constructivist view for knowledge explosion. The constructivist view, which under girds the work of John Dewey, Lev Vygotsky, and Maria Montessori, holds that teachers should be facilitators who help students construct their own understandings and capabilities in carrying out challenging tasks. Use of technology tends to subvert the prevailing, didactic view of education that holds sway in our society and entails active learning which will eventually foster a shift in society's beliefs in a more constructivist view of education. The emergence of new technologies pushes educators to understanding and leveraging these technologies for classroom use. Some of the technologies discussed in the paper are just a drop from the ocean which includes CIVILIZATION, STARLOGO: TNG, PANWAPA , ONADIME and NING.

Keywords: *Constructivism, CIVILIZATION, ONADIME, PANWAPA STARLOGO, Technological shift in education, TNG,*

Introduction:

The new millennium is ushered by dramatic technological revolution. In a society where most of work is now computer- oriented, how can schools resist the change. Technologies like smart classrooms, electronic networks are slowly infiltrating the schools. This technological revolution has transit the society from oral & print to visual culture. India, an agricultural country, beginning with agrarian society, got transformed to industrial society with times and with the rise of ICT, gave birth to information society of which knowledge is the primary source thus building a platform for knowledge society to retain which is the responsibility of education by generating knowledgeable and learned future learners. Gone are the days of “notion” child is tabula rasa”. Today's kid is not just a kid but i-kid. In this digital age, children are not referred as students but digital natives and so to meet the needs and

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requirements of these 21st century kids, teachers should act as digital immigrants and technosaves. The didactic view prevails among the general public. It holds that teachers should be masters of particular domains of knowledge and that their job is to transmit their expertise about these domains to students through lectures and recitations. Students should memorize the facts and concepts of the domain and practice its skills until they have mastered them, and they should be able to demonstrate that mastery on appropriate tests. The constructivist view, which undergirds the work of John Dewey, Lev Vygotsky, and Maria Montessori, holds that teachers should be facilitators who help students construct their own understandings and capabilities in carrying out challenging tasks. This view puts the emphasis on the activity of the student rather than on that of the teacher. But still teacher has to play a very crucial role in creating a constructivist environment," as an instructor illustrates, but facilitator asks thereby generating storm of ideas and problems in the learner's mind and making him curious to explore and construct. Need of the hour requires knowledge generation, not just information delivery and so teacher has to transform his role from dispenser of information to orchestrator of learning and helping students turn information into knowledge and knowledge into wisdom. Schools should no longer act as just buildings with all facilities but as 'nerve centers', where the walls are porous and transparent, connecting teachers, learners and the community to the wealth of knowledge that exist in the world. They need to develop a culture of inquiry, where students don't compete with each other for grades, but rather develop cooperative social structure and work towards the problem. A number of researchers have found a shift toward a more cooperative social structure in classrooms in which a network provides a common database for students. Marlene Scardamalia and her colleagues describe how students comment on one another's notes, telling what they find interesting and what they cannot understand. And it may well be that integrated learning systems generally encourage students' to compete to get through the material faster.

Technologies for Learning:

It is not sufficient to put a tag that we live in 21st century, but we have to make it a 21st century technically and our challenge is how to achieve our goal to make it actually a 21st developed century. Answer to this challenge lies in a single word" TECHNOLOGY", the car that everybody should have and should drive rather than being driven away. Use of

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technology tends to subvert the prevailing, didactic view of education that holds sway in our society and entails active learning which will eventually foster a shift in society's beliefs in a more constructivist view of education. The emergence of new technologies pushes educators to understanding and leveraging these technologies for classroom use. Various technologies provide the ability to convey concepts in new ways that would otherwise not be possible, efficient or effective. These technologies don't just help us teach the old stuff in new ways—they can also help us teach new stuff in new ways. Some of the technologies discussed in the paper are just a drop from the ocean. Gaming is already a widespread activity in our culture—more than 45 million homes have video-game consoles (Feller, 2006). Over 154 million Americans play video games (that's about half of the country's population) (Emrich, 2005). Therefore, one of the most obvious benefits to using these technologies for learning is that students are often already familiar with these interfaces and the "language" of interacting with and utilizing them. Both inside and outside the classroom, some strong examples of powerfully engaging gaming models have emerged. Some have been used quite a bit in the educational setting, while others have mainly garnered popularity in pop culture.

Gaming models in Educational settings:

The gaming models prepared using technology which can be used in educational setting include CIVILIZATION, STARLOGO: TNG, PANWAPA and ONADIME. The goal of introducing gaming models in education is not to replace learning with gaming, but main emphasis is on recognizing and leveraging the things that motivate students to make higher level connections. Like STARLOGO –This is a programmable modeling environment for exploring the workings of decentralized systems—systems that are organized without an organizer; coordinate without a coordinator- that is the systems and patterns that arise from individual interactions between many different objects, rather than systems that are centrally controlled. With the use of star logo, many real life phenomena can be demonstrated such as bird flocks, traffic jams, tidal movements in ocean & synchronized movements of pendulums can be shown. It is a tool to create and understand simulations of complex systems using agents-based programming and 3-D graphics. Another game which allows the learners to increase collaboration and strategy efforts is CIVILIZATION. Kurt Squire, contend that

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playing this game, can be a powerful way for learning about history. The website supporting this work (<http://civworld.gameslearningsociety.org>) has numerous resources for educational implementation of civilization. Onadime represents the cutting edge of real time interactive computing and the next paradigm shift in human communication. Using Onadime, real time interactive computing can be taught. Through Onadime, simple acts, like hand motions, can take people to their frontiers of perception. With "drag and drop" mouse motions in Onadime Composer, the computer can be instructed to respond to people and events, and make communications that are impossible via pen, paintbrush, still pictures, guitar, string quartet, calculator, spreadsheet, word processor or movie. Onadime contributes to a new medium of interactive, multimedia, multi-sensory communication. Even management institutions are not untouched with the beneficial use of social networking strategies. "Business game" (bizgame) is an interdisciplinary course, obligatory for all undergraduate students learning at the school of business administration and the department of economics. Decision making processes and teamwork are inherent by stimulating an executive management of a commercial firm.

Another to be considered is NING'S site. Although not specifically created for classroom use, NING'S personalization and privacy settings have been quite successful in education. Teachers can create their own private social network housed within the NING Site. In this way, the teacher can designate who is and is not able to participate in their social network. As administrator, the teacher may also enable to disable specific parameters, such as chat and messaging, if so desired. This type of site has been shown to be excellent for facilitating group projects. *Flickr*, one of the tools on the horizon, is important because its ease of use allows the students to keep their focus on acquiring new skills, building on exciting knowledge while at the same time developing writing; software and strengthening social ties within their learning circle. Even toddlers utilize multimedia devices and the Internet with tools such as handheld video games like Leapster and web sites such as www.PBSkids.org and www.Nick.com. Preschoolers easily navigate these electronic, multimedia resources on games in which they learn colors, numbers, letters, spelling, and more complex tasks such as mixing basic colors to create new colors, problem-solving activities, and reading. The web site, [ePals](http://ePals.com), is a site where teachers and students can go to join or start a collaborative project with anyone in the world. According to ePals, Inc., "Our Global Community is the largest

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online community of K-12 learners, enabling more than 325,000 educators and 126,000 classrooms in over 200 countries and territories to safely connect, exchange ideas, and learn together. Teaching this elephant to dance is going to be a major endeavor, and it will have to encompass everything from teacher education and administrative education programs at universities to in-service and continuing professional development for educators, to educating everyone else. In Today's scenario , the message is "Click it or ticket!"

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