Technology-Rich Classroom of The Future

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Abstract

Wide deployment of computers, software and telecommunications helps boost productivity and reduce transaction costs in many sectors, strengthening economic growth. Computers, mobile devices, and software can help expand the quality and availability of health care and other public services, as well as education.A lack of access to technology, on the other hand, can hinder development.We are striving to create a learning environment where innovative technologies are accessible, convenient, and familiar, and enable meaningful communication that is otherwise unavailable.The Classroom of the Future is a suite that begins with an experimental classroom and a seminar room, wireless environments that will allow students to be highly mobile yet continuously connected to the interactions and resources they need.Ultimately, the Classroom will provide the necessary environment for education faculty members to model the types of instructional activities that pre-service teachers can incorporate in their future classrooms, and support creative approaches to curriculum design to forge innovative lessons in new formats or for special types of learners. Classroom of the Future will serve as the support center for the educational technology to be developed by the teacher teams at each level of education.

Keywords

Future Classroom, Technology, Experimental Classroom.

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Technology and India's Future

The nation has become a global leader in information technology and other high-tech fields such as pharmaceuticals, telecommunications, and telecom-based business services. These sectors have contributed to the economy's rapid growth since 2003, which has lifted many millions of people out of poverty. Continued growth could alleviate suffering and expand opportunities for millions more. One day, we may look back on India's progress during this decade as one of the great humanitarian achievements of our time. Equally exhilarating is how India's rise may influence the global community. The world will be a safer place if other nations can learn from the achievements of what is not only the largest democracy, but also one of the most pluralistic cultures. The Ex-Prime Minister, Dr. Manmohan Singh, has said it well: "India's success will renew humanity's faith in liberal democracy, in the rule of law, in free and open societies." The entire world has a big stake in India's future. Besides being an important tool in education and a growth sector of the Indian economy, information technology can aid social and economic development in many ways. Wide deployment of computers, software, and telecommunications helps boost productivity and reduce transaction costs in many sectors, strengthening economic growth. Computers, mobile devices, and software can help expand the quality and availability of health care and other public services, as well as education.A lack of access to technology, on the other hand, can hinder development. More than 30 years after the invention of one of the most versatile and empowering technologies of our time, the personal computer is readily available to only 1 billion of the world's more than 6 billion people. Microsoft's founding vision of "a computer on every desk and in every home" is a reality for the roughly 1 billion people living near the top of the global economic pyramid. But the digital revolution has yet to spread very far in many rural areas, impoverished communities, and developing countries, including India. Disparities in technology access are troubling, for as the global economy is increasingly computerized and moves online, social, and economic development becomes even more difficult in the places and for the people left behind, on the less fortunate side of the digital divide. This is a problem that Microsoft and others in the information technology industry have been working to address.

The Need for Technology-Rich Teacher Training

The high level of attention has not solved the most vexing issues pertaining to educational technology—preparing pre-and in-service teachers to utilize technology for the benefit of all students. Teacher training programs in India are not adequately preparing teachers to use technology in their jobs. Recent studies by the

International Society for Technology in Education indicate that this remains largely true. Today, only 20% of teachers feel that they are well prepared to integrate technology into the classroom. Several factors bring greater urgency to national efforts to strengthen teacher education. In addition to the increased demand for teachers, many in-service teachers are simply not aware of the ways in which technology can be engaged to teach a variety of concepts. Consequently, teachers with basic knowledge of the Internet and application programs do not seek further training on their own.

In the words of Cheryl L. Lemke, vice president for education technology for the Milken Family Foundation, "Teachers don't know they don't know."Most teacher training programs today offer one course in educational technology as a requirement of their education programs—not enough for new teachers to gain a broad understanding of technology's possibilities in advancing educational quality. Moreover, current teacher training programs place tremendous focus on the technology alone rather than on the learning outcomes that it should foster. The fact that computer-based information processing power is doubling approximately every two to three years complicates the issue further. As a result, technology-focused training loses much impact as technology changes. Today's teachers are trapped in a cycle of under-preparedness to truly integrate technology into the classroom and Indian schools continue to struggle to make the best use of technology in the classroom.

The primary goal of teacher preparation is two-fold: to prepare teachers for the classrooms they will enter today, and to prepare our teachers for the classrooms they will help shape tomorrow. To offer students an environment that reflects the realities of today's classrooms, and the possibilities of tomorrow, the College of Education, Lehigh has developed a dedicated, multiple-room suite named the Classroom of the Future. The Classroom of the Future will enable pre-service teachers to experience technology as a powerful teaching tool and to inspire the development of creative, technology-rich curricula by concentrating on learning rather than technology. A technology-rich teaching environment is more than a classroom filled with technological devices that reflects recent insights into the social nature of learning, and where teaching, learning, and technology are integrated in meaningful ways.

One of the primary objectives of the classroom is to make technology invisible, focusing on the effective transmission of knowledge, not on wires, software, and hardware—a laboratory for exploring the potential of interactive, mobile, and multi-sensory tools capable of linking physical place through distance learning,

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dramatically increasing accessibility via the Internet and manipulating time through modeling and streaming video technology. The classroom will teach future teachers the differential use of various technologies to identify the best technology for the learning outcomes desired. We are striving to create a learning environment where innovative technologies are accessible, convenient, and familiar, and enable meaningful communication that is otherwise unavailable. Finally, transparent technologies allow the focus to lie more on the content of the learning problem, rather than overtly on the technology that enables the interaction.

The Classroom of the Future is a suite that begins with an experimental classroom and a seminar room, wireless environments that will allow students to be highly mobile yet continuously connected to the interactions and resources they need. Both the seminar room and the experimental classroom will be connected to a group space outfitted with a plasma screen for pre-service teachers to view the instructor's activities (either in the experimental classroom or the seminar room), work on group activities, and share ideas. "Smart-boards" will be mounted on the walls of the seminar room and the experimental classroom, in which students can record what is written on the boards onto computer files or print the information for use as handouts. Students and faculty will be able to share information from one laptop to the instructor's station, onto the Smartboards, and back to each student's screen seamlessly. Both rooms will have an instructor's station—complete with the control system, a sound system, a computer, a VCR, and software for "beaming" and/or receiving data between their computer and the students'. The suite also includes a Macintosh Lab, computer room, office/lab assistant space, and computer LAN closets. Since a major obstacle to technology integration lies in education and awareness, graduate assistants will be on hand to assist with projects and provide technical support for activities in the suite. Ultimately, the Classroom will provide the necessary environment for education faculty members to model the types of instructional activities that pre-service teachers can incorporate in their future classrooms, and support creative approaches to curriculum design to forge innovative lessons in new formats or for special types of learners. Classroom of the Future will serve as the support center for the educational technology to be developed by the teacher teams.

Undesirable Effect of Technology

- **Reducing Reading Habits-** Teachers, as important agents to inculcate reading habits in future generations, are of course expected to have reading habits. E. Oguz, Yýldýz, A., and Hayýrsever, F. proved statistically that *future classroom teachers do not have enough reading habits*, which is an

issue to be focused on. Most of the future teachers hardly ever read or did not read at all. They believe that the modern education system does not inculcate reading habits so there is a need to reform the education system, not teachers. Future Teachers should prefer to read newspapers, magazines & books not e-version of all. The fact that the mostly uttered excuse by future teachers for not reading books more is "lack of time" is thought-provoking. Hence, serious measures must be taken immediately to stop this vulnerability.

- **Loss of Writing Skills-** These are already on extinction and in the future generation, writing skills will disappear completely. Only typing and touching skills will be used to write. Pen (The weapon of writers) will be the laser pen which through light on the displayed content. Slowly - slowly, the writing skills will become lifeless.
- **Shrinking of Thinking Ability-** Information Technology is a curse to thinking ability because it provides us with an ocean of knowledge without any mental effort and at the same time fosters copy-paste habits in readers.
- **Loss of Memory & Poor Concentration-** The excessive use of technology has shortened our attention span from 12 minutes to 5 minutes. Constant news feeds, getting information in 140 characters, and videos that are 10 minutes or less have rewired our brains. People who are online for an average of 5 hours a day have trouble remembering people's names, forget pots on the stove and even their birthdays.
- **Poor Vision & Reduced Hearing Power –** Using headphones and earbuds can cause people to lose their hearing over time. Likewise, straining your eyes by looking at computer and device screens can cause people to need glasses much earlier in life.
- **Poor Sleep Habits-** Some of the negative effects of technology can be linked to the effect it has on sleep habits. We get sucked into online activities that keep us up too late and the constant stream of information can make it difficult to turn off our brains. Also, the ambient glow from screens can affect the release of melatonin, the sleep chemical.
- **Increasing Health Problems-** Constantly looking down at devices can cause neck pain and over time will cause the neck to lose its natural curve. Eyestrain can also cause headaches, blurred vision, and migraines. Technology causes people to suffer from mental and emotional disturbances, such as anxiety, phobias, and delusions, which are all symptoms of neurosis. Constantly

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being "plugged in" and "connected" causes an extra layer of stress that wasn't present before the overuse of technology. Technology creates the perfect recipe for depression with the lack of human contact, overeating, and lack of exercise.

- **Isolation & Lack of Social Skills -** Social isolation is characterized by a lack of contact with other people in normal daily living. We isolate ourselves by walking around in our little world, listening to our iPods, or staring at the screen of the latest mobile device even when we are around other people and socially isolated people will live shorter lives.The use of online social media outlets causes us to meet face-to-face with much less frequency resulting in a lack of much-needed social skills. We lose the ability to read body language and social cues from other people. Creating a lasting bond with other people requires face-to-face interaction. The more we isolate ourselves from technology the fewer bonds we will form. People are expected to do more work at home which takes away time they would be spending with their families. Also, younger people prefer communicating online versus face-to-face. When people are in the same room and communicating via text or instant messaging instead of speaking to each other, there is a problem.
- **Expensive Education-** The excessive use of Information Technology in Education made education more expensive and took it away from the reach of talented villagers. The technology-rich schools have a very high fee structure due to the maintenance cost of such technologies.

Stumbling Blocks in RuralIndiaLack of Finance

The Classroom of the Future coasted approximately $234,000 at Leigh University, America. In Indian Rupee, it is a very-2 big amount. Future Classroom is a dream for real India.

- **Lack of Electricity & Proper data connectivity-** Nearly more than half of India is suffering from low or no electricity. Although posh colonies, metro cities, industrialists' & ministers' houses, and big industries, etc are not a part of this problem 70-80% of the population which lives in villages, is still facing it. Internet Service Provider does not provide proper data connectivity in rural India due to which access to the Internet suffers.
- **Lack of Skilled & Dedicated Teachers-**who may inspire, impress, make learning fun &overallexemplify the quality and dedication that can make a remarkable difference to any education system.
- **Excess of Corruption-** It is rooted in all the problems mentioned above. All the financial help goes into the stomach of this devil. It is working as a

termite in Indian Progress. As trees cannot be grown in one day, corruption cannot be removed in one day. It is a long-term process and value-based education as well as role models in the form of great teachers are essential remedies to cure this epidemic.

- **Lack of Familiarity with appropriate approaches/Cyber Security-** In reality, most Indians are not aware of appropriate approaches for safe surfing over the Internet. That is why they are the prone victim of cybercrime.

Conclusion

Although there are many changes in the structure and content of courses, the keydirection of innovative programs in recent years has been toward a stronger school base in initial training, and close working relations between teachers in schools and university academics. Changes do seem to be needed, perhaps through wide consortium-type collaboration among the existing, most innovative, programmesto diffuse good practice, perhaps through wholly new programs. Closer working partnerships with schools and systems are widely seen as the way ahead since forging these will inevitably lead to a review of allthe components of the teacher education program and their responsibility for them. Teacher educators would welcome closer engagement with employers and systemauthorities in developing strategies for continuing professional learning, and building oninitial teacher education.For strengthening the quality of teachers' work and to reduce attrition, consideration should be given to more systematically structured ways of supporting teachers in the first year or so of teaching. There should be a continuum of learning and structured experience bridging the training period and early professional life.

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