

Digital literacies for global and wall-less classrooms: how to meet the challenges?

We prefer to use the term "Paradigm shift" when we describe the change in the education systems around the world! Nonetheless, some maintain the change was not abrupt! They say it has been in the air since a while and was made possible only by the digital revolution! You may argue here if you wish and bring in your reflections! There is no doubt the disruption of the education model by the new web technologies is not questionable. The question we need to raise: are we designing curricula to empower our students and prepare them to become learners for life in the digital world? Are we planning to implement specific programs to leverage Web 2.0 for authentic learning? Are we training staff to use some of these technologies into their teaching/supervision? Have we been able to convince all actors that the use of blogs, wikis and other Web 2.0 (Read/Write Web) teaching tools will certainly have positive impact on teaching, learning, or creative inquiry?

The answer is simple: far from that! Usually people resist what they ignore and resist more if they are requested to self-develop and change most if not all the current basic elements! Having a vision or accepting and embracing one may prove very difficult. For this reason, deep reform, without a shared vision of a new education model, has been very slow! Time has come to attract students/educators away from traditional settings and bring new perspectives to the discussion!

Across the world we recognize the role of technology in students' lives and how it empowers them and expand their learning opportunities beyond the classroom. Therefore, it shouldn't be strenuous to emphasize the vital place of technology skills and their crucial role to attain success in an increasingly mobile and demanding workforce. New careers with specific requirements are created everyday; what to do? Break the mold, be flexible, open-minded, be creative and entrepreneurial, become a learner...

Digital literacies are essential to collaborate and network with other learners, facilitate real-time learning and feedback, and develop a responsible and safe digital culture.

Online learning potential¹

Research from industry generally suggests that information and computer technologies can play an important role in improving productivity. It is about taking advantage of the tools to work smarter and more efficiently. To understand the potential for educational productivity offered by online learning opportunities, it is necessary to look at the pedagogical and practical affordances through which productivity gains might be realized. Online learning is often suggested as a means for improving educational outcomes, expanding access at lower costs than conventional approaches or allowing talented teachers to focus on what they do best by automating or offloading more routine tasks. Some studies have shown that universities that use online learning enjoy significant savings and can increase student rates of learning. To improve or increase the productivity of online learning some components will be described.

¹ Modified from "<http://www.ed.gov/technology>" "Understanding the implications of online learning for educational productivity".

- a. *Make resources accessible.*** Broadening the student access to lectures and courses of quality that academic institutions may not provide or because of the costs associated with recruiting teachers with the necessary skills and credentials. It could equally prove difficult to justify the expense of adding teachers who would serve relatively few students. With broadening online access to certified teachers without incurring extra costs, more educational opportunities could be made available to a larger pool of students.
- b. *Embrace an active learning approach.*** Online learning has a potential to improve learning outcomes by replacing lecture time with group and individual work that engages students more actively in learning, enabling greater motivation and deeper learning. These activities include online discussions, continuous assessments with immediate feedback and increased computer lab hours where students can get one-on-one support based on the work they have done from the online learning system. Additionally, simulations and visualizations that make challenging abstract concepts more accessible to students represent one demonstrated advantage of computer-based resources. Some game-based programs foster learning through multiple perspectives and transfer through immersive experiences and activities. A good example could be language learning through immersive technologies.
- c. *Answer learning needs, make it modular and flexible.*** Online learning environments are often described as highly individualized and differentiated. Some are designed to support the learning needs of a variety of students such as English language learners, while others are designed to enable flexible scheduling in order to accommodate travel, athletics, performances or other time-specific commitments or because a student was hospitalized or homebound. Modularization of online course content and persistent access to learning materials allow students to progress toward different goals or at different paces. Effective use of multimedia, hypertext, and other design features can increase accessibility and comprehensibility of course content for different kinds of learners and help students acquire multiple literacies. For example, mathematics and science vocabulary can be challenging for any student, especially students learning English as a second language. The use of hypertext to provide easy access to definitions and the use of graphics and simulations to enhance or reinforce text descriptions can make content more accessible to English language learners. In immersion methods, graphics are linked to sound and video and text elements create an appropriate environment of leaning language.
- d. *Feedback for higher performance***². Online learning environments can also offer multiple mechanisms to provide rich feedback and communication about student performance. Online assessments allow efficient data collection and analyses about individual and

² The Cognitive Tutor®, Web-based instructional software, provides a highly individualized blended approach to online learning. The tutoring program uses artificial intelligence to identify weaknesses and strengths in each student's mastery of mathematical concepts; it adapts to each student by pacing the curriculum, selecting problems appropriate to the student's skill level and providing immediate feedback. This suggests a reorganization of instruction, with student performance on computer-based formative assessments driving instruction. Pedagogically, the Cognitive Tutor focuses on real-world problem-solving through the use of multiple representations and tools, including online chat and virtual whiteboards.

group performance that would be more difficult to collect in traditional classroom environments. By incorporating accessibility features and scaffolding, universally designed computer-based assessments may yield more valid measurements of knowledge and skills for students. Online assessments also allow for the collection of new kinds of information about student knowledge, skills and abilities through embedded assessments and assessment of student performance on authentic tasks. This rich data about student performance can inform how teachers use their time and which instructional strategies they use for particular students. The data can also be used by developers of online content in the service of continuous improvement efforts. Immediate feedback loops established in online learning environments can also support the customization of learning content for individual students.

e. Personalizing learning. The shift in education systems towards more personalized learning has been stimulated by students' specific interests. Personalized learning allows students to draw on their personal interests to direct learning objectives and content. Personalized learning can tap students' innate curiosity and help them deepen their learning. In addition to improving outcomes, cost savings were reported by replacing individually held office hours with a help room where students can work collaboratively on difficult problems and concepts.

f. Maximizing teacher and student time. There are at least two uses of online learning to improve the use of teacher and student time. Visualizations of learning progressions and student development made possible through learning management systems and other online data systems may offer an opportunity to make the educator's workload lighter by providing targeted input to lesson planning and attempting to address individual student needs. Students may also benefit from reflecting on their learning progress. In addition, some online learning models are designed to transfer certain routine activities, such as skills practice and test preparation, from teacher-based whole- or small-group instruction to activities that students can conduct independently on a computer. Proponents of these models claim that this use of online learning allows class time to focus on activities and discussions that take greater advantage of teacher skills and real-time interaction with students.