

TECHNOLOGY ENHANCED TEACHING AND LEARNING FOR STUDENT SUCCESS

Many educators would agree that a vital indicator of student success is students' ability to develop both skills and an interest for lifelong learning. If this is the objective, however, then it follows that the modes of teaching we employ and the overall educational experience and environment we offer should reinforce these skills. In this context, I want to discuss the importance of educational technology. Formerly merely an issue of what machine was used to achieve a particular type of presentation, the use of technology has emerged as a keystone issue with regard to lifelong learning.

Increasingly, our students are coming to college already possessing advanced skills and practices with regard to electronic learning and communication. Labeled by some as "digital natives" (J.Brown, S.Parpert, M.Prensky), the computer and its electronic offshoots are so integral to their modes of thought, information acquisition and communication – indeed, central to their core behavioral repertoire – that they literally live in a virtual vernacular world.

In contrast, most faculty teaching these highly digital literate technophiles use the computer as an extension of the typewriter; it is a tool, but not a mode of being. These "digital immigrants" (M.Prensky) experience culture shock as they learn a new language and tools. Many cannot advance to fluency. For students, then, technology is a pedagogical context. They are far advanced of their faculty, for whom technology is an intrusive set of new tasks that infringe on the content learning that is of value to them.

It turns out however, that the emerging student techno-learning mode is exactly the kind of fast paced lifelong learning and collaboration skill set that is demanded by our rapidly changing world. It is a mode of transient learning where expertise in areas that become rapidly obsolete is less valued than the ability to quickly master emerging knowledge. Disciplinary knowledge is also being made irrelevant by the demands for multi and interdisciplinary learning skills.

Earlier, student success was defined as the acquisition of lifelong learning skills. But what are the learning skills that one is acquiring? Traditionally, education focused on the three "Rs" of "reading, riting and rithmetic." But these core skill sets must now be matched by an additional 3 Rs of information literacy: rigor, relevance and relationships. Rigor refers to the developed skill of discerning the accuracy and validity of information accessed on the Internet, along with meeting the demands of copyright, protection of intellectual property and creative commons requirements. Relevance involves the ability to identify online information that relates directly to the topic of study or research using a full array of online information sources and tools, while avoiding the potential for disruptive tangents that the Web offers. Relationships refers to the ability to network and identify communities of like-minded people and to collaborate and contribute to an informational commons. This new set of skills and its vast potential for collaboration offers new hope for an informed global society with a civic view of the goals of education. While therefore serving the prospects for democracy, this new reality complicates outmoded notions of individual achievement.

Achievement of success thus requires that faculty take the core of knowledge that is vital to us and integrate it with the new learning modes. Our new student learners are motivated to acquire information, but they have much to learn about what information to savor and how to use information and communication to various ends.

Over the past 8 years, many Web 2.0 technologies have been developed; technologies which are constantly evolving with the growth of technology in general. These Web 2.0 tools and services have been immediately embraced and utilized by students. Learning Management Systems (LMS) have emerged that increasingly reflect student as opposed to teacher needs. In a sense, these LMS attempt to buffer the distance between the skill sets of faculty and the learning sets of students. They are a "bridge tool," connecting generations with diverse learning styles and capabilities.

The very concept of Web 2.0 illustrates the rapid emergence of ideas. The concept was introduced by Tim O'Reilly in 2005 at the Web 2.0 2005 conference. It quickly became a buzzword in the educational world. By 2008, many interpretations of Web 2.0 had emerged, with more than 9.5 million citations in Google.

Web 2.0 can best be understood in contrast to the static and isolated environments of Web 1.0, with its characteristic tools including word processing, static web pages, and other modes of one way communication (from the publisher to the reader). Web 2.0 environments offer a dynamic, permanently evolving, interactive web platform that gives free and open access to diverse participants. As a result, Web 2.0 facilitates:

- individual and collective productivity,
- creative authorship and interaction with data published on the web,
- multi-modal interpersonal, group and public communication,
- active participation,
- advanced levels of collaborative learning and
- social networking that provides for a sense of connectedness and relationship.

Teachers and students alike are trained by Web 2.0 and other technological tools to be effective lifelong learners in an evolving connected knowledge environment. The collaborative nature of Web 2.0 tools not only makes it possible to find global knowledge quickly, but it allows for new knowledge to be created collectively. The existence of this body of "collective intelligence" can only be accessed through participation and active learning. Thus, the boundaries between teaching and learning and between knowledge acquisition and knowledge production break down. Successful learning in this technologically enhanced environment is enabled by the use of Web 2.0 technologies in our teaching.