EVOLUTION OF CLASSROOM INNOVATION: WAVES OF CHANGE

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ABSTRACT

This paper investigates the stages of technology adoption in classrooms, specifically computer technology and the Internet. All too often, however, the *use* of technology in the classroom is confused with the more important concept of classroom *innovation.* Administrators and faculty alike are interested in an improved classroom experience; however, the confusion between mere use and innovation impedes both technology optimists and pessimists from achieving breakthroughs that will improve the learning-teaching experience in significant ways. Technology is not synonymous with innovation; it only enables innovation given the right environment and openness to possibilities.

The broad goal of this paper is to explore the evolution of innovation in the classroom made possible by these new e-technologies. The specific objectives are (1) to provide language and a framework with which to discuss classroom innovation, and (2) to explore the process of faculty adoption of technology in the classroom. A number of areas are explored where change and innovation are evolving in the classroom, some mirror existing functions, and some have the potential to be truly innovative. This process follows three general "waves" of change: (1) technology-as-support, (2) mirroring, and (3) discontinuous innovation.

Wave1: Technology as a Support Function

In this initial wave, technology is used to support the classroom largely by performing tasks such as word processing of lectures and tests, spreadsheets, and data storage, or by providing support software like SPSS that helps students to gain hands-on-experiences. Nevertheless, these innovations are typically incremental and not directly student facing. They facilitate and enhance teaching, yet they do not significantly alter the teaching model.

Wave2: Mirroring

In Wave2, teaching functions are "mirrored." (Rayport and Sviokla 1995). For example, an activity performed in physical space (preparing lecture transparencies) is now performed in virtual space (using PowerPoint to prepare lecture slides). In this mirroring stage, efficiencies in production, storage and presentation occur and are more student-facing than in Wave1, yet there is still little significant learning change as transparencies, for example, while more efficient on PowerPoint, are still used to perform the same function.

Wave3: Discontinuous Innovation

In Wave3, new and innovative applications are developed, primarily as a result of faculty/student experimentation that begins to fundamentally change the classroom experience and outcomes. Wave3 innovations help to create an increasingly interactive classroom that (1) leads to stronger relationships with students and alumni and (2) enables increased achievement of learning and assessment goals. Here, classroom innovation is discussed that increases **student-faculty-alumni interaction,** as well as helping to achieve desired but difficult to attain **learning outcomes** such as lifelong learning, maintaining contact, and remaining current. In Wave3, students begin to assume an initiating and interactive role in their educations and acquire a sense of ownership and role in the classroom.

CONCLUSIONS

Discontinuous classroom change occurs as user knowledge evolves and as technological mediums become more transparent to later adopters. Faculty and student experimentation, largely trial and error, plays a major role in the adoption process. These innovators exhibit a willingness to engage in "bricolage" or play with new technologies (Turkle 1995). As such, classroom innovation evolves in fits and starts as successive waves of adopters engage the process out of interest and involvement, peer pressures, and student expectations. The innovations examined in this paper are seen as augmenting, extending, and creating a new dynamic and interactive classroom. A classroom today's eighth graders might expect upon entering college.

Rayport, Jeffrey F. and John J. Sviokla (1995), "Exploiting the Virtual Value Chain," *Harvard Business Review,* Nov-Dec.

Turkle, Sherry (1995), *Life on the Screen: Identity in the Age of the Internet,* Simon and Schuster, NY: New York.