Chapter 24

Priorities in the Classroom: Pedagogies for High Performance Learning Spaces

Robert Emery Smith  
Stanford University, USA

Helen L. Chen  
Stanford University, USA

Menko Johnson  
Stanford University, USA

Alyssa J. O’Brien  
Stanford University, USA

Cammy Huang-DeVoss  
Stanford University, USA

ABSTRACT

Innovative and informed design for higher education must begin with attention to teaching, not with shopping lists for digital media tools or blueprints for high performance spaces. The outcomes of the action research program embodied in Wallenberg Hall, a “socio-technical system” at Stanford University created to explore the futures of classroom learning, demonstrate the merit of this perspective. Framed in terms of an evolved implementation of the Technology, Pedagogy and Content Knowledge (TPACK) model of course design and presenting a three level categorization of teaching innovation, this chapter discusses a collection of course case studies to argue that the most innovative and informed design happens by keeping well-supported pedagogy at the forefront of higher education.

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INTRODUCTION

In 2001, Mark Prensky noted a fundamental change in the nature of students since the emergence of digital media technology, calling it a “singularity” that gave birth to a generation he dubbed “Digital Natives.” These students were born to a world of digital media, and the effects of the consumption of that media, he claimed, had changed the very neural pathways of their brains. Clearly they could not be expected to succeed in schools based in old media and methods; education had to change.

Responding to these perceptions, educational institutions began bringing technology-based tools into classrooms. For example, by 2007 most primary and secondary schools in Britain equipped classrooms with interactive whiteboards, which seemed to enhance student attention (Willingham, 2010). However, subsequent studies indicated that, despite continued enthusiasm for interactive whiteboards (IWB), better learning was not taking place. Achievement measured against control schools was slightly better in the first year but did not sustain first-year gains. “The literature review has revealed a clear preference for IWB use by both teachers and pupils. It remains unclear, however, as to whether such enthusiasm is being translated into effective and purposeful practice” (Higgins et al, 2005).

This is a problem facing higher education today. How do we best serve our students through providing better learning environments and experiences and leveraging new tools without privileging the latest technological tools as the primary means to improving education?

We note that teaching and learning are the reasons why our educational system exists. We may choose to design new classroom experiences and methods and equip them with a variety of information and communication technology (ICT) tools, but the priority should be clear: learning goals must come first in designing or redesigning classes, followed by pedagogy, then the actual design of the class, and finally the identification of appropriate technological tools. In other words, to best serve our students and enhance their learning, we should not ask what pedagogies are afforded by a particular technology, but instead ask how, in the context of a particular teacher and course, a pedagogy might be enhanced by which particular tools.

Thus this chapter is an account of some experiences and findings from the action research program in Wallenberg Hall. Our experiences lead us to argue that innovative and informed design for higher education must begin with attention to teaching, not with shopping lists for digital media tools or blueprints for learning spaces. The successes of the action research program of Wallenberg Hall, a learning center at Stanford University devoted to innovative teaching, provide a number of case studies demonstrating the merit of this perspective.

BACKGROUND

It is common to encounter articles in the literature today that isolate a technology to investigate how it might be used in an educational setting (Lloyd, 2010). Beginning with projectors, then interactive whiteboards and laptops, and recently with video lecture capture and Web 2.0 tools, the march of products aspiring to bring education out of the presumed dark ages of the twentieth century has continued. Meanwhile, educational scholars such as Abbott (2000) have argued persuasively for a re-evaluation of the use of digital technologies in the classroom based on their increasing prevalence as a mode of communication within an international context.

Indeed, technology is an important item on the docket of most school districts and colleges because computers and other ICT tools are generally regarded as a necessity, representing a significant cost of operations and a comparatively short useful life as an investment. A five-year-old classroom