Chapter 1

The Influence Upon Design of Differing Conceptions of Teaching and Learning with Technology

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ABSTRACT

This chapter considers some of the theoretical foundations of teaching and learning in higher education and how these are reflected in practice. We consider how varying conceptions of teaching and learning with technology have an impact upon how teachers design teaching and learning. This chapter reviews why these variations are important and how they can affect the design of the curriculum and ultimately what and how students learn. We conclude that promoting increased use of technology does little, if anything, to improve student learning. It is only by attending to higher education teachers’ conceptions of teaching and learning with technology and supporting change in this area that significant progress will be achieved. In this chapter we advocate that informed design in the use of technology is underpinned by beliefs about (conceptions of) teaching and learning with technology. To this end the chapter explores some of the theoretical underpinnings of these conceptions and argues that they are fundamental to driving well-informed practice in the use of technology to support student learning.

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INTRODUCTION AND BACKGROUND

There is much hope and promise that accompanies the use of technologies for teaching and learning in higher education, but it is challenging to consider what the best possible uses of technology might be in the design of student learning. Why is it that, in certain cases, technology supported learning is successful in actively engaging students and in improving the learning experience, while in other cases it does not? What is informing the design of successful learning experiences with technologies? We suggest that teachers in higher education need to be informed not only about the technologies available and their potential uses for teaching and learning, but also about other important factors that have considerable influence upon those processes.

University teachers’ views of technology have a fundamental relationship with how they use them and what they consider to be a successful use (Kirkwood & Price, 2005). As higher education institutions strive to embrace societal changes in the use of technology and a range of other influences on how they operate, it is important to recognise what factors affect the use of technology for teaching and learning, but also about other important factors that have considerable influence upon those processes.

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To date there has been an over-emphasis on technological manifestations (in other words what technologies are used in educational settings) and this has led to the neglect of pedagogical considerations (Katz, 2010; Kirkwood & Price, 2005). For example, why and how might students and teachers benefit from using technologies (Beetham & Sharpe, 2007; Conole et al., 2008; Kirkwood, 2009)? Reviews of technology use in universities in Westernised countries have repeatedly revealed that, despite the widespread adoption of e-learning technologies and online learning environments, the associated pedagogical issues have been of secondary concern (e.g. Becker & Jokivirta, 2007; JISC/UCISA, 2003; Zemsky & Massy, 2004; Zenios et al., 2004).

There is nothing novel about this perplexity. When television was a relatively new medium, McLuhan’s assertion that ‘the medium is the message’ (1964) summarised his view that communication technologies exerted influence upon society to a greater extent through the characteristics of the media themselves than by the content they conveyed. His technologically deterministic view over-simplified the complexity of the social relationship between medium and message and with society more widely. This is particularly relevant in education, where the deterministic view suggested that media themselves had a greater influence on outcomes than the efforts of teachers and educational designers. However, it is rarely a case of medium OR message, but rather the interplay between the two and other factors as well.

In the 1970s Schramm reviewed several decades of educational media research and concluded that there was little evidence to suggest that any particular medium or technology could, in or of itself, account for enhancing learning outcomes. Rather, he pointed out “a common report among experimenters is that they find more variance within than between media – meaning that learning seems to be affected more by what is delivered than by the delivery system” (1977, p. 273). While Clark and his associates (see Clark, 2001) sought to identify how media contributed to education by reviewing comparative studies (that is, projects in which various media had been used to replicate classroom practices), other researchers focussed on the unique contributions to educational processes and outcomes made possible by different forms of representation through various media technologies (see, for example, Saloman, 1997).

The advent of the Internet and World Wide Web has not only made technologies more ubiquitous in educational contexts, but has been accompanied by the development of an expanding range of media technologies, each with its own particular