Chapter III
The Theory and Practice of Teaching with Technology in Today’s Colleges and Universities

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ABSTRACT

There is a strong move worldwide for a constructivist theory to underpin the way teaching and learning are viewed in today’s colleges and universities. In this chapter, the authors explore the interconnections (or not) between constructivist theory and mainstream university teachers’ practice, and their use of educational technology. They suggest that at the heart of ongoing transformation of teaching with technology is a supportive context and inspirational leadership that (re)engages the academic heartland with constructivist learning theory, so that teaching with technology is constructivist based. Technology can thus serve as a powerful catalyst for reinvigorating the inter-relationships between theory and practice.

INTRODUCTION

There have been a number of shifts in colleges and universities over the years. The most obvious shift has seen these institutions move from a provider-driven, industrial-age model to a learner-centric, competency-based, information-age one (Dolence & Norris, 1995). The traditional model of higher education, which was supply led and typical of the industrial age, is giving way to a
The term “learner-centered teaching” now pervades institutional strategic documents, as well as extensive literature and research on learning and teaching. In addition, much effort is devoted to trying to get faculty, who are at the coalface in higher education institutions around the world, to view teaching as constructivist or learner-centered.

**Constructivism vs. Instructivism**

In a constructivist or learner-centered model, faculty are seen as facilitators and co-constructors of knowledge; and students are active, self-regulated and self-directed learners, with capacity to search, select and synthesize information and to construct their own knowledge and understanding (Tagg, 2003).

In constructivism, learning is an active process with learners seen as architects building their own knowledge structures, rather than absorbing knowledge transmitted by the instructor. In the process learners restructure prior knowledge and make connections with what is already known and what is learned, depending on their view of the world. Knowledge is seen as changing, and what is learned may not always be what is intended (Biggs & Tang, 2007; Merriam & Brockett, 2007; Tagg, 2003). In social constructivism, interaction and collaboration between learners are seen as fundamental to learning, with knowledge being co-constructed through opportunities for peer interaction and discussion (Light & Cox, 2006; Woolfolk, 2008).

Teaching that is learner centered places the attention fairly and squarely on student learning and on teaching that is aimed at facilitating learning (Tagg, 2003; Weimer, 2002). When learners have learned something, they have a clear mental picture of it, are able to talk about it or explain it to another person, and can use it to solve new