Designing Blended Learning Environments

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INTRODUCTION

The term "blended learning" is being used with increased frequency in academic publications and conferences, as well as in industry trade magazines around the world. In 2003 the American Society for Training and Development identified blended learning as one of the top 10 emergent trends in the knowledge-delivery industry (Rooney, 2003). In higher education, some predict a dramatic increase in the number of hybrid (i.e., blended) courses will include as many as 80%-90% of the range of higher-education courses (Young, 2002). Additionally, in a recent *Chronicle of Higher Education* article, the president of Pennsylvania State University, Graham Spanier, was quoted as saying that the convergence between online and residential instruction was "the single-greatest unrecognized trend in higher education today" (Young, 2002). This article provides an overview of blended learning environments (BLEs) with examples from both corporate training and higher-education contexts. It also identifies the most common benefits and challenges related to the use of blended learning environments from the research literature.

BACKGROUND

The use of the term "blended learning" has become a buzzword among educators and trainers in the last several years (Lamb, 2001). Prior to that, academicians generally referred to blended learning environments (BLEs) in higher education as "hybrid learning environments." With the explosion in the use of the term blended learning in corporate training environments, the academic literature has increasingly followed suit, and it is common to see the terms used interchangeably (Voos, 2003). In this section of the article, we define blended learning and share some examples of blended learning environments in corporate training and higher education.

Terms and Definitions for Learning Environments

By nature, both the terms "hybrid" and "blended" imply a mixing or combining of *something*. It is that *something* that people do not always agree upon. Some understand blended learning to be a combination of different instructional methods (Singh & Reed, 2001; Thomson, 2002), while others define blended learning as a combination of different modalities or delivery media (Driscoll, 2002; Rossett, 2002). However, blended learning is most commonly considered to be the combination of instruction (both methods and delivery media) from two archetypal learning environments: a traditional face-to-face learning environment and a computer-mediated or e-learning environment (see Figure 1). The rapid pace of technological innovation has fueled the convergence of these two historically separate environments and facilitated the emergence of blended learning environments (Graham, 2006). In essence, *blended learning environments combine face-to-face (F2F) instruction with computer-mediated (CM) instruction.*

Levels of Blended Learning

Blended learning can occur at many different organizational levels including the activity level, course level, program level, or institutional level (Graham, 2006). *The Handbook of Blended Learning: Global Perspectives, Local Designs* (Bonk & Graham, 2006) contains examples of blends at each of these levels. Table 1 contains descriptions and a few examples of blends at these different levels. While combining F2F and CM instruction at the activity or course level has been the most commonly addressed approach, there

Figure 1. Blended learning environments combine face-to-face (F2F) and computer-mediated (CM) instruction
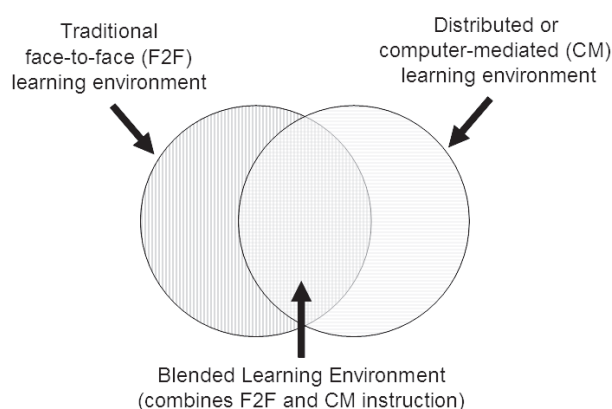
is evidence of an increasing number of program and institutional level blends (Cookson, 2002).

Real-World Examples

As might be expected, no magic blend is optimal for all learning contexts. In higher education and corporate training, blends of all varieties exist. At the F2F end of the spectrum, many on-campus instructors and corporate trainers are enhancing their courses or training programs by using computer-based technologies. In these instances, the instructors and trainers may change what they do in the F2F environment because of the added CM portion, but they typically do not reduce the F2F contact time. At the CM end of the spectrum, an increasing number of higher-education distributed education courses have an F2F component. These courses range from requiring F2F orientation activities and in-person testing (Martyn, 2003; Schrum & Benson, 2000) to allowing for optional participation in discussion or lecture sessions. In the corporate world, companies often add F2F sessions to e-learning training modules (Bielawski & Metcalf, 2002; Thorne, 2003) to give employees the chance to practice and apply skills and knowledge they have gained via the CM instruction. In the middle of the spectrum, both university courses and corporate training modules reduce F2F class time by increasing the time the learners spend in CM instructional activities. Table 1 contains some real examples of blending in higher education and corporate training contexts.

MAIN FOCUS: BENEFITS AND CHALLENGES TO BLENDING

This section discusses some of the primary benefits and challenges discussed in the literature to using blended approach to learning.

Benefits to Blending

The phrase most commonly used by advocates of blended learning environments (BLEs) is that they allow one to have the "best of both worlds" (Morgan, 2002; Young, 2002). However, BLEs can also mix the least effective elements of both worlds if they are not designed well. Beyond this general statement, three major themes are often referred to as reasons for blending: (1) more effective pedagogy, (2) increased convenience and access, and (3) increased cost effectiveness.

More Effective Pedagogy

The opportunity to improve teaching practices is one of the most commonly cited possibilities of blended learning environments. Currently in the U.S., on-campus teaching is dominated by a transmission model of teaching, with 83% of university instructors using lecture as their main teaching strategy (U.S. Department of Education, 2001). Likewise, distance education environments often focus on "transmissive" rather than "interactive" learning strategies (Waddoups & Howell, 2002). Garrison (Garrison & Kanuka, 2004) and others have written about the potential of blended learning to transform the quality of learning that occurs in higher education (Graham & Robison, 2007). While developing a blended approach to teaching does not guarantee an improved pedagogy, it forces instructors to reconsider their teaching strategies, which can result in improved learning outcomes (Twigg, 2003). For example, a blended approach might make it feasible to integrate formal and informal learning opportunities (Collis, 2006; DeViney & Lewis, 2006; Singh, 2006). Table 2 contains some of the documented pedagogical benefits:

Convenience and Access

Research has shown that the primary reason students choose online learning is for increased convenience (Hiltz & Shea, 2004). Many learners want the con-

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