Chapter 18
Social E-Learning Tools:
What to Use When? A Theoretical Framework

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ABSTRACT

The growth of technology and the inclusion of "digital natives" as students in the education world have created a demand pull for the use of Social learning technologies in education. Dominant among these tools have been wikis, blogs and discussion boards. Distance education experts view the use of these tools as key differentiators when compared to traditional education methods. However, the research in this area has yet to provide clear guidelines on usage. In this chapter, the aim is to provide a theory-driven model to outline the application and impact of these technologies in education. The focus is on the education tasks and technologies' characteristics to evaluate the underlying fit. The chapter outlines the extant research to substantiate our model and provide practitioner guidelines.

INTRODUCTION

The trend in technology-meditated training investment is highly visible in both organizations and academic institutions. In 2012, U.S. organizations with 100 or more employees spent $164.2 billion on formal training (ASTD, 2012). Increasingly, much of this training is done through new training methods such as technology-mediated learning (TML) or e-learning. In 2004, over 90% of all public institutions offered some form of technology-mediated courses. With advances in information systems, much richer forms of social technology mediated learning tools are available, such as virtual classrooms, asynchronous learning networks, e-apprentice training, etc. Some researchers have postulated that social TML is likely to become the most predominant and effective way of learning (Minocha, 2009). However, the guidelines regarding what social learning technology should be used under which context remain unclear.

More broadly, social learning methods provide a collaborative environment where participants draw on each other for social understanding, observations & reflections; thus, improving training outcomes. Various collaboration-based learning methods have evolved over the years, emphasizing different features

ranging from discussions to jigsaw puzzles (for a review of major methods, see Johnson and Johnson (2003)). Benefits of such methods have been demonstrated in cognitive domains such as mathematics (Webb, 1982), science (Okada & Simon, 1997), problem solving (Chi, Leeuw, Chiu, & Lavancher, 1994), engineering (Dossett & Hulvershorn, 1983) and technology training (Gupta & Bostrom, 2013). However, given the variance in learning method features used to implement collaboration, it is not surprising that meta-analysis of collaboration-based learning has shown a great variation in results (Gupta, Bostrom, & Huber, 2010; Lou et al., 1996; Springer, Stanne, & Donovan, 1999).

Beyond the general technology advance, the emergence of Web 2.0 technologies has further created a demand pull environment where both instructors and students are looking forward to using these technology tools in learning/training (Gooding, 2008; Harris & Rea, 2009; Martin, Reddington, Kneafsey, & Sloman, 2009). The interest in employing these kinds of technologies stems not only from the potential pedagogical benefits gained, but also from the basic need to stay in tune with the focus and strengths of today's students. Researchers have argued that a whole new generation of 'digital natives' (individuals who are surrounded by digital technologies) have entered the learning space and need to be accounted for (Myers & Sundaram, 2012). These digital natives not only use technology, but also expect to interact using these technologies. Researchers have postulated that this interaction is critical to learning (Keengwe & Schnellert, 2012). Consequently, an increasing number of trainers/educators have started incorporating social technologies in learning (Ali-Hassan, Nevo, & Nevo, 2010; Jokela, 2003). However, limited theoretical guidance exists regarding how, when and what tools to use in a particular context (Gupta & Bostrom, 2009; Lehtinen, Hakkarainen, Lipponen, Rahikainen, & Muukkonen, 2003). In addition, existing research also has shown in equivocal and non-generalizable results when using social learning technologies in training/education.

One explanation for these mixed results is that most studies have focused on the technology classes (such as blogs, wiki's, discussion boards) as a whole or the specific technology features (anonymity, synchronicity, etc.) when studying their effectiveness (Minocha, 2009). Given the variation within technology classes as well as implementation differences, the lack of consistent and generalizable results is not surprising. Additionally, the problem is that there is no good comprehensive theoretical model to guide research efforts as well as provide practical guidelines in this area exists.

This chapter presents a theory driven model to address the above-mentioned concerns. The model draws on the theory of Task-Technology fit. This theory is appropriate because it allows us to understand the nature of pedagogical tasks as well as the characteristics of the technology involved. In this study, the focus is on three dominant technology tool classes – Wikis, blogs and discussion boards – to illustrate the use of the model. All three these social technologies that have found extensive usage in education and organizational training. Existing studies in these areas are used to substantiate the model and generate propositions.

A FRAMEWORK FOR UNDERSTANDING OUTCOMES AND USAGE

Two major theoretical frameworks have been used to understand the use of social learning technologies. The first perspective outlines task-related activities and socio-emotional activities as the main drivers of outcomes (Koh & Lim, 2011). It suggests that the choice of the tool does not matter, and the focus should shift to the task-related activities for which the tool was intended. The second perspective uses

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