

Chapter 19

Wiki Use in Higher Education Implications for Group Size and Task Complexity

Elizabeth Koh

National University of Singapore, Singapore

John Lim

National University of Singapore, Singapore

ABSTRACT

In recent years, the field of education has discovered the educational value of social interaction technologies, including Wikis. However, a lack of conceptual understanding and operationalization of Wiki use has prevented a more extensive adoption of this collaborative technology by educational institutions. The present chapter provides insights into the functionality of Wikis and their educational implications for higher education. The authors contend that a conceptualization of Wiki use in the classroom context can be derived from a typology of online interactive pedagogies. The proposed conceptualization is based on the assumption that certain kinds of Wiki-related activities correspond to certain levels of classroom interactions: namely, social interaction, general discussion, topic focused discussion, and collaborative activities. Additionally, group size and task complexity should be considered as criteria for Wiki implementation. The main premise of the chapter is that the instructional use of Wiki-based classroom technologies can enhance student learning.

INTRODUCTION

Due to the collaborative nature of Wiki technologies, *Wiki* has become a buzzword in 21st century higher education. A Wiki is a platform for content creation and negotiation by user audiences. Students use Wikis for collaborative writing exercises, completing group assignments, service learning,

and community outreach projects (Hamer, 2006; O'Shea et al., 2007; Wheeler, Yeomans, & Wheeler, 2008). Instructors implement an assortment of Wiki functions for content management systems and for various class-related activities (Bruns & Humphreys, 2005; Glogoff, 2006). These activities have been carried out with varying degrees of success in achieving student learning outcomes. It has been established that online education, with its emphasis on student-centered learning, can benefit from the

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addition of Wiki tools to the higher education landscape (Bower et al., 2006; Fuchs-Kittowski & Köhler, 2005). However, as Wang and Turner stressed, Wiki deployment in online learning has led to considerable dilemmas that necessitate further investigation (2004).

Addressing the issue of technology-mediated communication in online learning communities, Geer (2006) developed a comprehensive pedagogical framework which integrates three essential elements: learning outcomes, interactive pedagogies, and interactive technologies. This framework can inform instructors' adoption of interactive technology tools in online learning environments. As Geer wrote:

Central to the framework are the specific types of activities that support varying levels of interaction, ranging from very general to more specific and focused activities. These activities which have been derived from a reading of the literature and also from university teaching experiences, include social interaction, general discussion, topic focused, scripted, cooperative and collaborative activities. Such interactive pedagogies could be used to support student interactions and learning (p. 132).

Geer placed Wikis exclusively within the category of topic focused interactive pedagogy used for achieving such learning outcomes as analysis, interpretation, exploration, reflection, and experiential learning (p. 133). After carefully reviewing the existing research of Wiki implementations in the higher educational context, the authors propose expanding the range of interactive pedagogies that can inform Wiki use to include social interaction, general discussion, and cooperative activities. That will allow broadening the range of possible student learning outcomes to encompass: information exchange, observation, clarification, comparison, and task division (p. 138).

BACKGROUND

The term *Wiki* refers to both technology and a concept of how one can create and edit online content (Louridas, 2006). In essence, Wikis are editable websites that enable users to apply simple markup language to build content and collaborate (Lamont, 2007). Developing Wiki pages involves three simple steps: write (or edit), save, and display (Klobas, 2006). Known as "open editing," Wikis allow users to browse through Wiki pages, edit existing pages, or create new ones (Leuf & Cunningham, 2001). Wikis encourage internal linking of pages but limit the appearance of the so-called "orphaned pages" (i.e., pages that have no direct links to them); thus, a constantly changing body of content is evolving (Wang & Turner, 2004). Besides, Wikis offer an opportunity for groups of users to join their efforts in developing content.

Many Wiki systems utilize web-based open-source software technologies (Raman, 2006). The users can choose to either install or run a Wiki on their own computer or use Wiki hosting services. Wiki pages can be displayed by any web browser, are available anytime, and can be accessed from anywhere. Wiki platforms are highly flexible in terms of their structure and can be customized to suit various purposes. In addition, Wikis can have different read-and-edit access permissions (Chawner & Lewis, 2005; Leuf & Cunningham, 2001); they are either open (anyone can edit the Wiki) or allow only registered members or selected persons to access and edit the Wiki. The ease and speed with which web pages can be created are the fundamental concepts in Wiki deployment. High flexibility and functionality of Wikis have led to their rapid proliferation in many areas (Louridas, 2006). Examples of successful Wiki implementations can be found in the practices of many organizations and corporations (Bean & Hott, 2005; Raman, 2006). Wikis have also become common in the educational landscape (Parker & Chao, 2007; Raman, Ryan & Olfman, 2005; Schwartz et al., 2004).

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