

Chapter 10

Integration of Multiple Web 2.0 Tools and Student Task Completion in Two Educational Technology Classes

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ABSTRACT

This chapter reports on online student task completion activities as they engage in a learning environment that uses multiple Web 2.0 tools in two sections of a graduate level Educational Technology course at an American institution of higher education. Using a web-based Likert-type questionnaire to collect data from twenty-two participants, this chapter sought to investigate the relationship between working with multiple Web 2.0 tools and student task completion activities (following discussion threads, team work, and meeting assignment deadlines) in a network learning environment (NLE), what Web 2.0 tools students prefer the most in online learning environments, whether there is any gender difference in terms of task completion, and which activities presented more challenge to participants. The survey results indicate that no significant correlation exist between the variables. Finally, recommendations for future research are suggested.

INTRODUCTION

Some research has been conducted on network learning environments, but little has been said about student experiences as they engage in learning environments that use multiple Web 2.0 tools in addition to the traditional learning management system platform (e.g. Blackboard, WebCT, etc...). Frequently students ask why instructors integrate

so many emerging technologies, such as Web 2.0 tools, into a graduate level course. This is done because previous students have found it was very difficult to integrate the technologies they learn from the course into their classroom teaching. Most schools and school districts today do not have learning management systems, such as Vista or Blackboard because they are fairly expensive. Web 2.0 technologies are generally free and can

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be used by just signing up for a free account. Each Web 2.0 tool has specific features and functions so classroom teachers can select those appropriate to support their teaching and learning. In Network Learning Environments (NLEs), instructors use a variety of tools such as wiki to create online reading materials, Google Docs for assignment submission, Twitter for making and following course announcements, or Delicious for bookmarking and sharing materials online.

Despite their potential to increase student motivation and engagement, these tools often present a lot of challenge to online learners especially when it comes to completing various required tasks. In the context of this study, student tasks or activities referred to the following course aspects in an online setting:

1. Following discussion threads;
2. Team work;
3. Working with web 2.0 tools; and
4. Meeting assignment deadlines.

These aspects also constituted the dependent variables for the study and the independent variable was ‘working with multiple Web 2.0 tools’. The section that follows reviews the current literature related to NLE and Web 2.0 tools as well as the theories that constitute the framework of the study, the methodology section is discussed next. Furthermore, a discussion of results is presented and the chapter concludes with a few recommendations for future research.

LITERATURE REVIEW

Network learning is a complex learning model, different components of which could span a number of established learning theories. For the purpose of this chapter, unique aspects of the network learning model were isolated to better address the theoretical framework that informs the research. First, students were expected to access,

navigate, disseminate, and synthesize large quantities of information for the purpose of building and sharing knowledge. Second, students construct an environment with technology through which they could learn. They did not learn *from* the technology, but *through* the process of applying it with the goal of constructing a custom personal learning environment as Jonassen et al. (2003) put it. Constructivism and connectivism provided the theoretical framework for this research. Students engaging in this network learning research must be more self-directed. Not only are they navigating a number of Web-based applications for the first time, they are also required to take an active role in the learning process by making decisions about how to search, where to search, and why certain content meets a learning objective. This section presents the current state of the art regarding the integration of multiple web 2.0 tools in online courses and how these tools affect student task completion activities. First, the definition of network learning environment is explored; second, the benefits and challenges of integrating web 2.0 in online courses is outlined and finally a discussion of the theories that support network learning is presented.

What Is Network Learning Environment?

In this chapter, network learning is defined as learning that takes place online. For that purpose, network learning, connected learning, and on-line learning are used interchangeably. Network Learning Environments (NLEs) allow for online learning to be expanded from traditional settings to more interactive settings through the use of online collaboration tools including Web 2.0 environments. This setting provides for a variety of networks that brings many diverse viewpoints to the learning process. According to Pittinsky (2004) “Network Learning Environment in the Internet age applies new technology to a very old concept- that learning is much more than

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