Chapter 6

The Role of Individual Learner Differences and Success in Online Learning Environments

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ABSTRACT

“Education over the Internet will be the next big killer application,” says John Chambers, President and CEO of Cisco Systems. He also states that online learning will be much bigger than the last killer application of the Internet — e-mail (Friedman, 1999). The recent surge in online learning has opened up the eyes of many educators to the growing possibilities of online learning and teaching. As these online offerings continue to grow, the educational impact will have far reaching implications for schools, teachers and students. In order to better understand the effectiveness of the online environment as an instructional delivery medium, research needs to be conducted focusing on factors that contribute to the effectiveness of the learning environment. In particular, individual learner differences are an important variable when evaluating online learning success. This chapter will discuss various individual learner differences and how they relate to student success in the online learning environment.

INTRODUCTION

The popularity of the online learning format is prompting many educational institutions to make decisions about the future of online learning at their institution including, increasing the number of classes offered online, replacing classes offered in traditional formats with online classes, and allocating resources for supporting the course delivery medium. These institutions are not limited to higher education institutions. According to Gallagher (2004), nearly 300,000 high school students attended online classes during the 2002-2003 academic year.

The list of online learning possibilities continues to grow from virtual high school classes and fully accredited graduate degrees to certification programs and faculty development in-services. As these online offerings continue to grow, the educational impact will have far reaching implications...
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for schools, teachers and students. Students will have access to schools anywhere in the world. Just having a program that allows students the opportunity to learn anytime, anywhere, will not be enough. Schools that allow students the opportunity to learn in ways they prefer will have a remarkable advantage. Catering to individual differences, these schools will allow students to learn via methods and formats that fit their learning styles. In turn, these students will have more positive learning experiences that will facilitate the life long learning desires that they will need in order to succeed in the third millennium.

According to Wood (2005), students who succeed in traditional settings may not do well in online courses. Carr (2000) states that distance education courses tend to have higher dropout rates than traditional courses. In a study at a small liberal arts college, Lynch (2001) reported dropout rates from Internet courses to be 35-50% while traditional courses were at 14%. This could be attributed to student motivation, learning style, or any number of individual learner characteristics and differences. Evaluating learner differences of online students and how these differences affect one’s academic performance is one way to understand the student’s role in evaluating the effectiveness of the online learning environment.

This chapter will discuss various individual learner differences and how they relate to student success in the online learning environment. Included in this chapter will be a review of learning styles and self-regulated learning characteristics. A discussion will describe the development of an online course to address learning styles. A study will also describe how self-regulated learning characteristics compare to academic performance of graduate students in an online course.

BACKGROUND

Successful Learning Styles in Distance Education

Diaz and Cartnal (1999) recommend that faculty utilize relevant social and cognitive preference data from the learning style inventories of their students for assistance in developing and delivering online courses. Learning style assessments taken at the beginning of a course, or ideally as students enter certification or degree programs, can give faculty and designers the information needed to help identify students that may need more attention and develop resources to help them.

Diaz and Cartnal (1999) cite a number of distance learning studies done over the past decade that indicate that students with independent learning styles score higher and succeed more often in distance courses than those with more social learning styles. Diaz and Cartnal (1999) labeled the “absence of face-to-face social interaction between students and teacher” as a “distinguishing feature of most distance education classes.” Additionally, they found that those who prefer abstract concepts to concrete experiences fair better in distance courses. These factors should come as no surprise as today’s online learning materials are not exceptionally social and are more abstract than concrete.

It is important to note here that independent and abstract learners are also better academic performers than their more social and concrete classmates in the traditional classroom (Myers & McCaulley, 1985). Although the traditional on-site classroom, as opposed to the online classroom, would seem to offer more resources for the more social and concrete learner, they may still be geared toward independent and abstract learners. If social and concrete students cannot benefit as much from the regular classroom, today’s online classrooms might only leave them farther behind.