

Chapter 7

DELES Analysis of E-Learning Environments: Satisfaction Guaranteed?

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ABSTRACT

As online education expands, more data is needed on how to optimize its effectiveness in higher education settings. This chapter highlights a quantitative study that utilized the Distance Education Learning Environments Survey (DELES), to test the effects of student-centered learning constructs on student satisfaction in online courses. The sample population consisted of 306 students taking masters-level online courses in education or nursing at a university in Southeast Texas. Descriptive statistics and data were analyzed by correlation analysis and stepwise regression. Results of analyses showed personal relevance and authentic learning had the strongest correlations with student satisfaction, whereas the strongest predictors of student satisfaction were personal relevance and instructor support. The findings of the study described herein can provide beneficial insight regarding the design of effective online learning environments in higher education and improving the quality of the student experience.

INTRODUCTION

As higher education continually evolves, quality online education programs are becoming increasingly vital to the sustained growth and strategic success of academic institutions (Allen & Seaman, 2015). Since the Internet became widely available in the 1990s, online education has become a firmly entrenched and valuable asset for U.S. colleges and universities (Estelami, 2012; Shelton, 2010; Walker & Fraser, 2005). In fact, Allen and Seaman (2015) recently reported that a record 70.8% of chief academic officers surveyed now consider online learning crucial to the long-term success of their institutions, representing an increase of over 20% since the researchers initiated their annual report in 2002. Furthermore,

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although the growth rate of online education may be slowing, it still continues to exceed that of overall higher education enrollment (Allen & Seaman, 2015). So the question becomes how do administrators, course designers, and practitioners build and maintain quality online learning programs that are capable of sustaining the growth of higher education in the digital format? More specifically, which factors, when considering the design and development of online courses, lead to student satisfaction and success, while maintaining academic integrity?

Survey instruments can provide an efficient and objective option for measuring the quality of learning environments, and student perceptions of the learning environment can explain some of the variance observed in learning outcomes (Walker & Fraser, 2005). For instance, Moos (1979) demonstrated that survey instruments can be used to assess student perceptions of learning environments, and that these assessments can, in turn, predict student success. More recently, the Distance Education Learning Environments Survey (DELES) was developed and validated by Walker (2003) for the purpose of gauging student perceptions on various aspects of distance education courses. The survey contains 42 items allotted to 7 scales. The first six scales of the DELES measure the perceived levels of the following student-centered learning constructs in distance education courses:

- Instructor support;
- Student interaction and collaboration;
- Personal relevance;
- Authentic learning;
- Active learning; and
- Student autonomy.

The final scale of the DELES measures students' satisfaction with distance education (Walker, 2003). This scale is intended as the affective or outcome variable to which the previous six are associated (Walker, 2003). As a course outcome, student satisfaction is considered an extremely viable and affective variable (Paechter, Maier, & Macher, 2010) and has been used to evaluate the overall quality of distance learning programs (Lim, Yoon, & Morris, 2006). Researchers have found that student or learner satisfaction can have significant positive correlations with student success (Eom, Wen, & Ashill, 2006; Sun, Tsai, Finger, Chen, & Yeh, 2008) and retention (Douglas, Douglas, & Barnes, 2006; Park & Choi, 2009; Roberts & Styron, 2010). For instance, in asynchronous online courses, Swan (2001) found that students who were more satisfied with their courses also tended to be more actively involved in the courses and displayed higher levels of perceived learning. In addition, Puzziferro (2008) noted that students who were more satisfied in online courses tended to earn higher grades. Furthermore, self-reported satisfaction may be a more effective proxy for student success than direct measures such as course grades, which can often be artificially high, and limited in range, "thus severely limiting their use in a correlation study" (Rovai & Barnum, 2003, p. 61).

The DELES was firmly grounded upon the learning environments research that was established at the time of its creation (Walker, 2003) and has proven to be a valuable tool for assessing the quality of online learning environments in multiple subsequent studies conducted in the U.S. (Biggs, 2006; Ke & Kwak, 2013; Walker, 2005) and abroad (Ferrer-Cascales, Walker, Reig-Ferrer, Fernandez-Pascual, & Albaladejo-Blazquez, 2011; Kirmizi, 2014; Ozkok, Walker, & Buyukozturk, 2009; Sahin, 2007; Sahin, 2008). In fact, the DELES has been translated into both a Turkish (Ozkok, Walker, & Buyukozturk,

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