

Critical Factors Affecting Student Satisfaction in Distance Learning Environment: A Review of the Literature

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ABSTRACT

Distance education is usually applied in several parts of the world to provide study opportunities for those who cannot or do not attempt to be involved in classroom instruction. According to some educators, distance education is considered as one of the most important and significant new instructional approaches available for improving teaching and learning in universities nowadays. This has raised important questions about the determining factors which influence learning, satisfaction, and retention of the learners of this academic program because a key concern for most institutions and teachers is whether learners are satisfied with their learning experience or not. Hence, there is a need to study more and in depth on distance education to overcome the types challenges, issues, and identifying factors that influence student satisfaction with online courses. In this paper, the authors review the current literature and discuss possible factors in order to provide appropriate support for suitable distance learning environment to positively affect student satisfaction with online courses.

Keywords: Online learning, distance learning, student satisfaction

INTRODUCTION

Due to technological revolution, there has been many changes in education. A high amount of universities has changed traditional undergraduate classes into distance learning (Sophonhiranrak, Suwannathachote, & Ngudgratoke, 2015). Distance learning is considered as a very common yet fascinating area in the current realm of educational studies (Schulte, 2011). Distance education is considered as a kind of official learning in that the learner tracks a scheduled and directed learning experience which involves a geographical distance separating the student from the instructor and regularly from other students (Holmberg, 2005; Tasker, 2010). According to Scott (2011), "Distance education makes an educational involvement of similar qualitative value as a face-to-face course for the student to best suit his or her requirements in a progressively demanding culture challenged by the outdated face-to-face classroom delivery mode" (p.3). Distance education also roughly includes any kind of learning in that the elements of an organized learning activity (i.e. students, teachers and learning capitals) are divided by time and/or geography (Rovai, 2009).

Distance education is no longer a trend in higher education; rather, it is considered as an entirely improved approach of instructional delivery (Lambert, 2011). Academic leaders in the United States believe that distance learning is critical to the long-term development of their institutions and it has given rise to the principle that education must and can be exposed to all (Belawati & Baggaley, 2007), especially with the increase in demand for distance courses or programs is higher than that for face-to-face courses (Allen & Seamon, 2008; 2010) during the past several years in many countries, particularly in North America, Western Europe and in Australia and New Zealand (Rovai, 2009). While the increased access to higher education for learners is beneficial for community members served by the colleges, the success rates for distance education is still a concern (Sher, 2009). As Scott (2011) stated, "A gap exists in both successful completion and retention rates between distance education and traditional instruction" (p. 23).

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The increase of distance courses offered at institutions of higher education, along with their ever-increasing student enrollment, educators and administrators are responsible to investigate student satisfaction in detail (Gebara, 2010). This is because higher education institutions consider student satisfaction to be one of the main elements in identifying the value of their programs in the current marketplaces (Parahoo, Santally, & Rajabalee, 2016). Further, it is considered that student satisfaction is a significant issue of the quality of academic experiences (Yukselturk & Yildirim, 2008; Kuo, Walker, Belland, Schroder & Belland, 2014). As student satisfaction is an important measure in evaluating the program, a stream of research over the past decade suggested that there are several critical success factors which must be managed effectively to fully realize promise for distance learning (Grady, 2013; Kuo, 2010; Lambert, 2011; Mcfarland & Hamilton, 2005; AlHamad, Al Qawasmi, & AlHamad, 2014; Eom & Ashill, 2016). Therefore, it is vital to have a strong understanding of variables which contribute to student satisfaction with online courses in distance education. Additionally, understanding these factors and the rationale behind them would permit curriculum developers, teachers, and instructional designers to come up with advisable policies for creating a more conducive learning environment and providing a way to identify the future achievement of learners in the online context (Gebara, 2010).

The success of distance learners will thus lead researchers to study the factors of online learning which affect the way learners experience their learning because a key concern for most institutions and teachers is whether learners are satisfied with their learning experience or not (Li, Marsh, & Rienties, 2016). Therefore, this article on the online learning success factors is a priority to distance education researchers and experts, and several authors have tried to identify the multidimensional factors associated to the satisfaction of distance learners. In this article the authors also reflect on the majority of issues recognized by using the related literature to identify which ones heavily affect students' satisfaction, learning, and retention in online courses. This review is very important because the impact of distance learning program is very limited compared to traditional program, and it has been found that there are several components affecting student satisfaction in distance learning program. Hence, this paper helps us know which factors are more important in determining student satisfaction in distance learning program.

METHODOLOGY

In this article, the authors use different methods to identify papers to consider for this literature review (Ellis 1989; Ellis & Haugan, 1997). The methods include searching in databases or search engines and from known research papers (Liyaganawardena, Adams, & Williams, 2013). They collected relevant literature from the "Web of Science Core Collection" database that includes "SCI-EXPANDED", "SSCI", "A&HCI", "CPCI-S", and "CPCI-SSH" by which they included articles with an acceptable level of quality (Akhavan, Ale Ebrahim, Fetрати, & Pezeshkan, 2016).

Throughout this review, a broad range of factors that affect student satisfaction within the distance-learning context for higher education were examined. The key search terms were "student satisfaction," "learning success factors," and "distance education." The authors focused on the studies published between 2010 and September 2016. They based their final search on these keywords, which resulted in a sample of 74 articles. The selection criteria in choosing these articles comprised of three principles: (a) each article must include at least two factors related to satisfaction, (b) the study design should be based on survey or questionnaire, or review paper, and (c) the main findings of the research must be related to satisfaction in distance education environment. In total, there were 12 articles that matched the selection criteria and all of the studies utilized questionnaires or surveys for assessing course satisfaction, and mostly selected students in higher education institutes as their samples. Abstracts of these studies were first reviewed and articles were then limited according to the following principles. Then, full papers were examined for the relevancy to this review. Each paper was read and its content was analyzed and classified into five categories to help explain the key features of the study. The first category consisted of author (s), the second one is predictive factors, the third category relates to research design, the fourth category is number of participant, and the fifth category is focused on results of the study.

Critical Factors Affecting Learner Satisfaction

It is important to note that identifying the defining factors for satisfaction has become much more dynamic and complex (Dziuban, Moskal, Thompson, Decantis, & Hermsdorfer, 2015) due to the fact that there are diversities of construct which associate with course satisfaction. Researchers have been interested and continue to conduct studies to identify different variables associated to the satisfaction of online students. As quality inside higher education is recognized as an area of great concern for all shareholders, like learners, parents, administrators, and managers (Mertz & Leonard, 2003), the authors of this review paper focused on the factors which are associated to student satisfaction with online courses because course satisfaction is considered as an important

measure regarding the quality of online courses (Aman, 2009). A summary of the literature relevant to all the factors affecting student satisfaction with distance learning is presented below in Table 1.

TABLE 1
Previous Research about the Critical Factors that Affect Learners' Satisfaction

| No. | Author(s)&Year | Critical Factors | Design | Participant | Result |
|-----|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Tan Rongjuan (2010) | Computer Self-Efficacy, Self-Regulated Strategy and System Quality | Survey | 436 students | All variables are critical factors which highly influence learners' satisfaction |
| 2 | Svanum&Aigner (2011) | Course Effort, Mastery and Performance Goals, Grade Expectancies, Earned Course Grades, Motivation | Survey | 220 students | All variables predicted course satisfaction. |
| 3 | Joo,Lim&Kim(2011) | Perceived level of presence (Teaching Presence, Social Presence,Cognitive Presence), Perceived Usefulness And Ease Of Use | Survey | 709 learners | All factors were significant predictors of learner satisfaction and learner satisfaction significantly predicted persistence |
| 4 | (Stefanovic et al., 2011) | Instructor dimension (instructor response timeliness, instructor attitude), Course dimension (flexibility and quality), Technology dimension (technology quality and Internet quality) and environmental dimension (diversity in assessment and interaction) | Survey | 300 Students | Instructor response timeliness, course flexibility, course quality, internet quality, diversity and interaction are the critical factors. |
| 5 | Saeed (2012) | Interaction,self-directedlearning readiness, cognitive and meta-cognitive strategies | Survey | 352 Students | There is relationship between instruction, cognitive and meta-cognitive and satisfaction but no relationship between self-directed learning readiness and satisfaction. |
| 6 | Cortes; Barbera (2013) | Learner predictor factor (general self-efficacy, self-efficacy online, motivation, prior knowledge, and course expectation), Institutional factors (learner support, social presence, direct instruction, learning platform, instructor interaction, learner interaction, learning content, and course design), and three different outcome factors (learner satisfaction, knowledge acquisition, and knowledge transfer) | Survey | 1119 learners | Significant differences in 14 factors but Instructor interaction and learner satisfaction were without significant difference |

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|----|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 7 | (Barbera, Clara, & Linder-Vanberschot, 2013) | Institutional (learning platform, technological support, social presence, direct instruction, instructor interaction, students' interaction, learning content and course design) | Survey | 499 Students | The most influential aspects of the online courses were learning content and course design. |
| 8 | (Rostaminezhad, Mozayani, Norozi, & Iziy, 2013) | Motivation, self-regulation, interaction, academic locus of control, learner autonomy, and social presence | Survey | 223 students | Motivation, self-regulatory and interaction are important factors for learner success. |
| 9 | (Martín-Rodríguez, Fernández-Molina, Montero-Alonso, & González-Gómez, 2013) | Course (course planning, content, resources and evaluation), technology (accessibility, multimedia elements, the structure and web browsing), and Instruction (communication with the professor, teamwork with classmates and intervening) | Survey | 1114 Students | Course design and content, the facility for accessing and visualizing information and interaction were key aspects |
| 10 | Marinakou (2013) | Instructor's perception, instructor availability, clear grading criteria, assignment, easy to use technology | Survey | 80 Students | Instructor overall performance impacted positively and significantly to student satisfaction |
| 11 | Eom; Wen & Ashill (2016) | Dialogue (Instructor-student, and student-student), instructor, course design, self-regulation, and motivation (intrinsic and extrinsic) | Survey | 372 Students | Instructor-student, student-student dialogue, instructor, and course design significantly affect students' satisfaction |
| 12 | (Rockinson-Szapkiw, Spaulding, & Spaulding, 2016) | Institutional factors (financial support; program, curriculum and instruction; and support services) and integration variables (academic, social, economic, and familial integration) | Survey | 148 Doctoral Candidate | Support service; quality of the program, curriculum, and instruction; academic & social integration; and familial integration are important. |

These research focused on critical factors in the field of university and have effect on student satisfaction in distance education program. However, numerous mutual factors and multiple methods describe and evaluate student satisfaction through online courses. For example, Tan Rongjuan (2010) found that by using e-learning success model and technology-accepted model, he examined self-regulated learning, computer self-efficacy, and system quality and found that these factors are critical to student's satisfaction. Moreover, in a study that was conducted by Svanum & Aigner (2011), all study factors directly or indirectly predicted course satisfaction.

Joo, Lim & Kim (2011) investigated the relationships among perceived level of presence, perceived usefulness and ease of use with student satisfaction and persistence in an online university in South Korea. The results from their study indicated that teaching presence, cognitive presence, and perceived usefulness and ease of use were considered as the significant predictors of student satisfaction. Meanwhile, Stefanovic et al., (2011) developed an integrated model consisting of eight factors in four dimensions and result indicated that instructor response timeliness, e-learning course flexibility, e-learning course quality, technology quality, internet quality, diversity in assessment and interaction are the critical factors affecting student satisfaction. From their study, Stefanovic et al., (2011) suggested that all universities have a flexible institutional structure to integrate online learning technology for the improvement of learning outcomes.

The successful implementation of distance learning environment is mostly based on instructor interaction. As Saeed (2012) stated, it is necessary to consider interaction in distance education. Similarly, Cortés and Barbera

(2013) and Marinakou (2013) supported that online interaction contribute highly to student satisfaction. Marinakou proposed that it is important for instructors to build an online community where students can work with others or in teams. In contrast, Martín-Rodríguez et al., (2013) claimed that between different components involved in the course satisfaction, interaction is somewhat lower in priority.

Meanwhile, the results of the study by Barbera, Clara, and Linder-Vanberschot (2013) found that among the different institutional variables, course design and the learning content are the most influential variables for student satisfaction. Rostaminezhad, Mozayani, Norozi, and Iziy (2013) meanwhile focused on learner related factors and suggested that institutions should improve self-regulatory skills of distance learners due to its influence on satisfaction. According to Eom, Wen, and Ashill (2016), dialogue, instructor and course design significantly affect student satisfaction, but self-regulated and motivation have no significant relationship with student satisfaction. The study final study by Rockinson-Szapkiw, Spaulding, and Spaulding (2016) indicated that support services, strategic curriculum, and instruction, academic integration, combined with program structures that foster social integration with faculty and familial integration can promote online doctoral persistence.

DISCUSSIONS AND CONCLUSIONS

Distance learning system might be considered as having several human/non-human entities interacting together through computer-based instructional schemes to obtain the aims of education, including student satisfaction (Eom, Wen, & Ashill, 2006). Satisfaction is considered significant as a student's reaction to learning circumstances affects "one's consideration about subsequent attempts of learning in cyclical fashion" (Artino, 2008), especially with many universities are participating in the teaching and learning activities that are done online (Joo, Lim, & Kim, 2011). Satisfaction in online learning is recognized as a concern among online educators to avoid learners from dropping, withdrawing, or otherwise leaving their course of study online (Khalid, 2014). Therefore, due to the progressively significant role that the student satisfaction has in distance education, and due to lower retention rates in online classes as compared to face-to-face classes (Gaytan, 2009; Shieh, 2009), recognizing the factors that has been widely examined in the last decade is important.

Based on the existing literature, there is a collection of variables related with student satisfaction with online courses (Tao, 2009; Naveh, Tubin, & Pliskin, 2010; Walker, 2008). According to the related previous studies, many factors might affect the online learning, but planning and designing online courses is considered very complex that includes many factors. Consequently, universities and teachers should study these factors to improve their learners with operative learning context (Stefanovic et al., 2011). After doing a comprehensive search procedure in Web of Science database and refining the consequences, the researchers found 74 related articles, which were then focused on only 12 articles associated to the focused selection criteria. By analyzing the features of literature on distance education, the amount of research papers in this area years 2011 and 2013 were the highest amount of publications and citations. It likewise recognizes the fact that interaction is considered as a significant factor in most of the investigations. Stefanovic et al. (2011) claimed that interaction mechanisms in online learning contexts must be designed appropriately to develop frequency, quality, and promptness of collaborations that might influence online student satisfaction. Additionally, in distance-learning setting, the character of instructor is very significant and online teachers have equal active character as a teacher in the real classroom (Andronie, 2012).

The authors believe that the university administration should consider the factors, which have been pointed out in this paper for effective operation. Additionally, better understanding of the association between these issues would help investigators to recognize and improve operative instructional policies for the students' online learning experience success (Tao, 2009).

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