

Factors Affecting Student Retention in Online Courses: Overcoming this Critical Problem

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Abstract

The purpose of this study was to determine what a panel of 15 experts would identify as critical factors affecting student retention in online courses that will serve as implications for educational leaders to guide their student retention strategies, online organizational structures, institutional policies, and online instructional activities. A three-round Delphi method was used to collect and examine panelists' perceptions, experiences, and recommendations. Expert panelists considered the most important factors affecting student retention in online courses and reflected upon their collective responses. As a result, several themes emerged from each of the three rounds. The top three factors that affect student retention in online courses were student self-discipline, quality of faculty and student interaction, and institutional support to students.

Keywords: Online, Learning, Student, Retention, Delphi Method

Introduction

Distance education began with European correspondence courses more than a century ago (Buckley & Smith, 2007). The number of students enrolling in online courses continues to grow in the United States (Allen & Seaman, 2007, 2008, 2010; Trenholm, 2007). The demand for online courses has increased significantly and, as a result, the number of institutions offering such courses has increased to an unprecedented level (Sileo & Sileo, 2008). The fact that some studies have found that online learning is more effective than face-to-face learning (U.S. Department of Education, 2009) has contributed to the significant increase in the demand of online learning.

This unprecedented growth in the number of students enrolling in online courses has also been experienced in the Career and Technical Education field. Countless students desire to pursue degrees or to enroll in courses to earn or maintain teacher certification without having to relocate the entire family (Asunda, 2011). That is, "students who are time-bound due to job or travel difficulties, or place-bound due to geographic location, want to access courses and degree programs at their convenience" (Zirkle, 2002, p. 2).

However, this unprecedented growth in the number of online programs and students has not taken place without significant challenges. For instance, dropout rates were found to be six to seven times higher in online programs (Patterson & McFadden, 2009) and student retention in online courses is lower than in traditional, face-to-face courses (Boston & Ice, 2011; Liu, Gomez, & Yen, 2007; Stanford-Bowers, 2008; Terry, 2007), which has become a major educational problem today (Allen & Seaman, 2006, 2007, 2008). In the field of Career and Technical Education, student retention rates have also decreased (Asunda, 2011; Bruening et al., 2001).

While much has been written about faculty and student perceptions of online instruction (Gaytan, 2004, 2007a, 2007b, 2008a, 2008b; Gaytan & McEwen, 2007), little has been written

about student retention in online courses (Boston & Ice, 2011). This information is essential to the success of online programs offered by colleges and universities across our nation, in general, and Career and Technical Education programs, in particular.

Purpose of Study

The purpose of this qualitative study was to determine what a panel of 15 experts would identify as critical factors affecting student retention in online courses. A Delphi technique was used to collect and examine panelists' perceptions, experiences, and recommendations that would serve as implications for educational leaders to guide their student retention strategies, online organizational structures, institutional policies, and online instructional activities. Specifically, this study sought answers to the following research questions:

1. What are the perceptions held by experts in the area of online education regarding the critical factors affecting student retention in online courses?
2. What recommendations could be given by experts in the area of online education regarding the critical factors affecting student retention in online courses?

This study's findings and discussions will assist online education stakeholders, including those in the Career and Technical Education field, in gaining a better understanding of strategies that can be implemented to confront the student retention problem successfully.

Literature Review

Student retention, in general, has received increased attention in our nation. For instance, the 2009 stimulus package given by the Federal government included the development of a "\$2.5- billion grant program to help states improve college-completion rates" (Field, 2009, para. 2). In the online learning environment, distance education administrators are searching for possible solutions to this retention problem by looking at retention models, such as Tinto's Student Integration Model and Bean's Model of Student Departure (Boston & Ice, 2011; Soen & Davidovitch, 2008; Veenstra, 2009). It is clear that student retention has become a major agenda item for college leaders today. Student retention in the online learning environment is no exception.

Early studies of student retention in online courses concentrated on factors affecting student retention in a single course. However, Waschull (2004) designed a psychology course and delivered it in both online and face-to-face formats. Students were given a choice to enroll in their preferred format. Findings revealed that self-selection is not the only factor contributing to the academic success of students in online courses.

Liaw (2008) created an online learning model to determine the impact that the online learner's self-efficacy (i.e., self-directed behavior and autonomy), interaction environments, and multimedia formats have on student satisfaction and retention in online courses. Findings revealed that while all three factors were significant contributors to student satisfaction and retention in online courses, student's self-efficacy was considered the largest contributor.

Park and Choi (2009) set out to determine the factors that influence online learners to persist in online courses. These authors examined whether dropouts were different in terms of internal factors (i.e., satisfaction and motivation); external factors (i.e., organizational and family support); and online learners' demographic characteristics (i.e., ethnicity, gender, age). Findings revealed that while there was not a significant difference in demographic characteristics between

persistent learners and dropouts, significant differences were found between persistent learners and dropouts in terms of internal and external factors. The implications of this study highlight the importance of both external and internal factors in student retention in online courses.

Several researchers (Boston, Ice, & Gibson, 2011) studied the relationships between student retention and student demographics and interaction in online courses and revealed two major findings. The first finding revealed that transfer credit constitutes the most important predictor of student retention in online courses. The implication of this finding is that online students are more likely to remain in the program if courses taken elsewhere are transferred into their programs of study. The second finding was related to the ability to maintain an adequate GPA. The implication of this finding is that online students were not satisfied with just progressing or passing an online course but with achieving an adequate GPA.

The student retention problem in online courses represents a significant challenge, as research has shown that retention rates are often 10-20% lower for online courses than for face-to-face instruction (Holder, 2007). Distance education administrators are searching for possible solutions to this retention problem by looking at retention models, such as Tinto's Student Integration Model. This model theorized that the greater the level of academic and social integration, the greater the likelihood of students being persistent until graduation (Tinto, 1975).

However, most student retention models have been designed for the face-to-face classroom learning environment, making it very difficult to apply them to the online learning environment. In essence, the student demographics for online courses are very different from the face-to-face classroom. For instance, online students tend to be older and are more likely to have a barrier to attend face-to-face courses (e.g., family and work schedules). Adding complexity to this issue is the fact that while several studies have identified the same significant factors affecting student retention in online courses, inconsistent results among these significant factors have been found by these studies. The fact that each educational institution has its own set of unique factors affecting student retention in online courses (e.g., course structure, faculty involvement, level of support) complicates this issue even more (Street, 2010).

Chen and Jang (2010) tested a self-determination theory model, developed by Deci and Ryan, on two online programs. The self-determination theory claims that an individual has three basic needs: autonomy, competency, and relatedness. Findings of this study revealed that autonomy "was found to significantly support competency in the online environment. In turn, competency positively affected perceived autonomy, relatedness, and competency of the online student" (p.750). In addition, this study found that self-determination should be presented to the online students as an attractive personal characteristic that allows them to achieve success in online courses. It serves as a motivational factor to persist in online courses. This last finding is consistent with other recent research studies, as Nichols (2010) found that online students' persistence is affected by course factors, self-determination, and support services.

Based upon a comprehensive literature review, it is evident that no single set of factors exist that is able to predict student attrition in online courses. However, several common themes did emerge from the literature, including external factors (e.g., course factors and support); personal factors (e.g., self-efficacy and autonomy); and academic factors (e.g., time and study management). Self-efficacy is a "belief that one is capable of executing certain behaviors or achieving certain goals" (Ormrod, 2011, p. 13). The factors that emerged the most were self-efficacy and course relevance and support (i.e., family, faculty, and organizations). All of these

themes, however, were not always empirically tested in the studies reviewed and, consequently, there is a need for studies to empirically test these common themes or factors (Street, 2010).

According to Bandura's model, the behavior of an individual both influences and it is influenced by personal factors and the environment (Ormrod, 2011, p. 354). Using this model in the online learning environment has the following implications:

A student's decision whether to drop-out or persist in an online environment influences and is influenced by personal factors such as self-efficacy, self-determination, autonomy, and time management. A student's decision whether to drop-out or persist in an online environment also influences and is influenced by environmental factors such as family support, organizational support, and technical support. A third, unique factor can be added for online attrition. Course factors of relevance and design influence a learner's decision to persist or drop an online course. (Street, 2010, para. 4)

Methodology

This study used qualitative research methodology. A three-round Delphi method was used. The Delphi method is a structured communication technique, originally developed as a systematic, interactive forecasting method which relies on a panel of experts. This panel of experts answers questionnaires in two or more rounds. After each round, a facilitator provides an anonymous summary of the experts' forecasts from the previous round and the reasons supporting their judgments. Consequently, experts are encouraged to analyze and revise their earlier answers and to compare them with those from other members of their panel. Eventually, the range of the answers will decrease and the group will converge towards the agreed upon answer. Finally, the process is stopped after a pre-defined stop criterion (e.g., number of rounds, achievement of consensus, stability of results) and the mean or median scores of the final rounds determine the results (Wiersma & Jurs, 2009).

In this study, fifteen (15) experts were identified and selected to analyze critical factors affecting student retention in online courses that could serve as implications for educational leaders to guide their student retention strategies, online organizational structures, institutional policies, and online instructional activities. While this researcher sought to recruit more than fifteen (15) expert participants for this study, no additional individuals were found with excellent knowledge of, and experience with, issues of student retention in online courses. However, it has been suggested that the number of panel experts in a Delphi study should be between 10 and 30 (Delbecq, Van de Ven, & Gustafson, 1975).

These expert participants were selected because they had conducted formal and informal research that had looked into retention issues related to online learners. Each expert participant provided perceptions, opinions, recommendations, and personal experiences separately. Expert participants were administrators with at least five years of experience working with online education and sufficient knowledge and experience with the various aspects involving student retention in online learning. Each of the three rounds of this Delphi study allowed the 15 panel of experts to rate, reflect, and refine their responses (Skulmoski, Hartman, & Krahn, 2007). Finally, all experts' collective responses were summarized to develop themes that would be used as recommendations for best student retention practices in online courses.

Content validity determines whether the questions accurately represent the intended domain. For this study, it was established through a pilot study in which two other expert

participants answered six open-ended questions to get information to be used in the first round of this Delphi study. Revisions and changes were incorporated into those questions that were deemed unclear (Creswell, 2005). It must be noted that conventional ways of determining reliability are not appropriate for Delphi studies (Hughes, 1993).

Findings

Major findings related to the two research questions under scrutiny will be presented in this section, followed by a discussion of each of the findings. Expert panelists provided the most important factors affecting student retention in online courses and reflected upon their collective responses during the three-round Delphi study (Skulmoski, Hartman, & Krahn, 2007). Several themes emerged from each of the three rounds.

Round 1

Expert panelists were asked to respond to several broad, open-ended questions related to factors affecting student retention in online courses. Responses were reviewed and content themes were identified. Expert panelists were asked to rate the 28 themes that emerged from the initial open-ended questions. The top five themes that emerged from Round 1 are displayed in Table 1. The theme with the highest rating was *student self-discipline*, which is consistent with the work of Artino (2008).

Table 1
Top Five Themes that Emerged from Round 1

Theme	Frequency
Student Self-Discipline	11
Quality of Faculty and Student Interaction	9
Institutional Support to Students	8
Last Grade Received in an Online Course	7
No Transfer Credit Received by the Student	6

Round 2

Expert panelists were asked to respond to a questionnaire survey with the goal to “pare down” the themes that emerged from Round 1 (Skulmoski, Hartman, & Krahn, 2007, p. 4) to arrive at a reduced, easy-to-manage list that could be rated by the expert panelists in Round 3 to refine the list and reach consensus (Skulmoski, Hartman, & Krahn, 2007; Vernon, 2009). The survey instrument completed by the expert panelists consisted of both open-ended questions and four-point, Likert-format items, with response options along a continuum of *highly affecting student retention, medially affecting student retention, lowly affecting student retention, and not affecting student retention*.

Expert panelists’ collective responses were analyzed with SPSS to determine the mean level of agreement and each theme’s standard deviation (SD). The value for the mean level of agreement was computed for each theme in the entire sample. Table 2 displays the five highest-rated results from Round 2, based on themes that emerged from Round 1.

Table 2

Five Highest-Rated Results from Round 2, Based Upon Themes that Emerged from Round 1 (n = 15).

Theme	Affecting Student Retention n(%)				M	SD
	High	Medium	Low	None		
Quality of Faculty and Student Interaction	13(87)	2(13)	0(0)	0(0)	3.80	.30
Student Self-Discipline	12(80)	3(20)	0(0)	0(0)	3.65	.36
Institutional Support to Students	11(73)	4(27)	0(0)	0(0)	3.60	.37
Last Grade Received in an Online Course	9(60)	6(40)	0(0)	0(0)	3.55	.42
Overall Quality of Online Instruction	8(53)	7(47)	0(0)	0(0)	3.50	.43

Table 2 reveals that expert panelists rated the theme *quality of faculty and student interaction* as a factor *highly affecting student retention*, with the highest mean score and lowest standard deviation ($M = 3.8$, $SD = .30$). In addition, expert panelists rated the theme *student self-discipline* as a factor *highly affecting student retention* with the second highest mean and second lowest standard deviation ($M = 3.65$, $SD = .36$). Table 3 shows the top five themes identified in Round 1 and the Mean level of agreement in Round 2.

Table 3

Top Five Themes Identified in Round 1 and Mean Level of Agreement in Round 2.

Theme	Number of Times Theme Appeared in Round 1	Mean Level of Agreement in Round 2
Student Self-Discipline	11	3.65
Quality of Faculty and Student Interaction	9	3.80
Institutional Support to Students	8	3.40
Last Grade Received in an Online Course	7	3.30
No Transfer Credit Received by the Student	6	3.15

Round 3

Seven expert panelists (47%) rated *student self-discipline* as a factor *highly affecting student retention* in Round 3. The second highest rated theme was *quality of faculty and student interaction*, which was rated first in Rounds 1 and 2. Table 4 shows the expert panelists' rankings of the top five themes from Round 2.

Because it is important to allow expert panelists to review their responses from Round 1 (Skulmoski, Hartman, & Krahn, 2007), expert panelists were asked to compare their Round 3 ratings with those given in Round 1. Eleven expert panelists (73%) answered that their ratings in Round 3 highly corresponded to their ratings in Round 1. Finally, following the advice from other researchers (Skulmoski, Hartman, & Krahn, 2007), expert panelists were asked for their recommendations for future practices, which are presented in the following section.

Table 4

Round 3 Expert Panelists' Rankings of the Top Five Themes from Round 2 (n = 15)

Theme	Affecting Student Retention n(%)				M
	High	Medium	Low	None	
Student Self-Discipline	7(47)	4(27)	2(13)	2(13)	2.20
Quality of Faculty and Student Interaction	5(33)	4(27)	4(27)	2(13)	2.30
Institutional Support to Students	4(27)	5(33)	3(20)	3(20)	2.50
Last Grade Received in an Online Course	2(13)	4(27)	6(40)	3(20)	2.65
No Transfer Credit Received by the Student	1(6)	5(33)	7(47)	2(13)	2.75

Recommendations by Expert Panelists

Expert panelists provided several recommendations which were summarized, using a theme process, resulting in four major recommendations which are offered to assist educational stakeholders, in general, and Career and Technical Education faculty and administrators, in particular, in more effectively confronting the student retention problem in online courses:

1. Online students must receive a mandatory, face-to-face or online (e.g., training modules) orientation and training session prior to the beginning of the online course to ensure students understand the impact of self-discipline and time-management skills on their academic success in online courses.
2. Online students must be screened to ensure that they possess adequate computer skills and self-discipline to be considered a “good fit” for the online learning environment. Regarding self-discipline or self-regulation, students must become more responsible for their own learning to ensure academic success in online courses.
3. Online faculty must understand the critical importance of dynamic faculty-student and student-student interaction to the success of an online course. Institutions should monitor instructor response time and online presence. Professional development programs must be designed and delivered to ensure that instructors teaching online courses have received adequate training and, as a result, are very much aware of what works and what does not.
4. More effective and efficient online student support services must be available, such as tutoring, financial aid counseling, online course registration, online training and orientation modules, and remediation for struggling students. Online faculty play a very critical role in identifying at-risk students and refer them to the remediation support specialists.

Discussion and Conclusion

During this three-round Delphi study, expert panelists provided what they considered the most important factors affecting student retention in online courses and reflected upon their collective responses. As a result, several themes emerged from each of the three rounds. Overall, the top three themes that emerged from this study were *student self-discipline*, *quality of faculty and student interaction*, and *institutional support to students*.

Expert panelists rated *student self-discipline* as the number one factor affecting student retention in online courses. This finding is consistent with other research studies, as Heyman (2010) found *student self-discipline* as the second most important factor affecting student

retention in online courses. *Student self-discipline* is one of the main components of learner-centered models (Cornelius-White, 2007), as other researchers have claimed that these models "emphasize students' responsibility for their own learning" (Howell, Williams, & Lindsay, 2003, para. 31). In addition, Artino (2008) referred to *student self-discipline* as the students' ability to *self-regulate*. This finding clearly suggests that students must become more responsible for their own learning in online courses if they are to be successful (Stanford-Bowers, 2008). Some researchers refer to this self-regulated learning as authentic and meaningful learning (Khare & Lam, 2008).

The second highest rated factor affecting student retention in online courses was *quality of faculty and student interaction*. Several research studies have shown the importance of faculty and student interaction in online courses that is consistent, immediate, and of high quality (Artino, 2008; Gaytan, 2007c). For instance, several researchers have found that "student-instructor interaction enhance student retention, self-motivation, and pass rates" (Wuensch, Aziz, Ozan, Kinshore, & Tabrizi, 2008, p. 525). Other researchers have found the following instructional strategies to enhance the quality of faculty and student interaction: plan the interaction before the online course begins; maintain constant and consistent communication; provide sufficient and immediate feedback to the students; encourage student-student interaction; encourage immediacy behaviors; and ensure that the interaction is dynamic, intense, constant, consistent, engaging, and meaningful (Gaytan, 2007c).

The third highest rated factor affecting student retention in online courses was *institutional support to students*. By "institutional support," experts meant that students must receive adequate support from the educational institution regarding admissions, registration, financial aid, tutoring, programs, policies, and procedures. This finding is supported by Tinto's and Bean's theories on student retention, linking students' sense of social and academic needs to the educational institution (Heyman, 2010; Soen & Davidovitch, 2008; Veenstra, 2009). In short, students are more likely to drop an online course when they do not feel supported by the educational institution, particularly in areas of admissions, registration, financial aid, and tutoring (Stanford-Bowers, 2008). Online courses "can appear to be an impersonal exercise, which leads students to feel 'eSolated' from instructional staff" (Appana, 2008, p. 15).

The implications of this study's findings to Career and Technical Education administrators, faculty, and students should not be ignored. Career and Technical Education online course offerings must continue to increase to meet the demand of primarily non-traditional Career and Technical Education students. However, course offerings must not be delivered without essential aspects that increase the probability that the student will remain in the course. For instance, Career and Technical Education students must be required to attend an orientation meeting that will allow them to fully understand the impact that self-discipline and time-management have on their academic success in online courses. At the same time, online Career and Technical Education faculty must understand that faculty-student, and student-student interactions must be dynamic and are paramount to the academic success of their students. If faculty members do not feel that they truly understand "dynamic interaction," they should seek training opportunities in this area. Furthermore, Career and Technical Education administrators must understand that online students must have effective and efficient online support services, such as online course registration, online financial aid counseling, online tutoring, online training and orientation modules, and online remediation for at-risk students. In summary, these recommendations must be followed by Career and Technical Education administrators, faculty, and students to successfully respond to the student retention challenge in online courses.

Recommendations for Future Research

Because this research study included only a handful of experts in the area of online instruction, researchers are encouraged to replicate this study using a larger sample of experts. In addition, researchers are encouraged to conduct formal, scientific research studies that employ other methodologies.

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