Doctoral Students: Online, On Time, and On to Graduation

Abstract

Increased numbers of students are enrolling in online doctoral programs. Although students enroll for a variety of reasons, many do not persist to the dissertation phase. The results of this quantitative study can guide the development of retention strategies for students who are at risk of academic failure.

Introduction

The expansion of online programs and student enrollment continues through post-secondary education at all levels, including the doctoral level. The number of online students increased by approximately 1 million to 5.6 million in fall 2009, demonstrating an increase of 21% (Bollinger & Halupa, 2012). Although doctoral online programs are gaining popularity, student persistence remains comparable to undergraduate retention rates. It remains unclear as to which factors contribute to student persistence at the doctoral level; however, faculties are deemed integral contributors for the support of doctoral students. Yet, despite mentoring, increased academic support systems, and implementation of other retention strategies, student retention at the doctoral level remains nearly 50%, similar to undergraduate levels (Stallone, 2004). Understanding student persistence, as related to faculty status, gender, and course room time are factors considered throughout this study.

Online Doctoral Student Persistence

Though online programs may be convenient, many students are challenged in the online environment. Tinto (2006/2007) explained students decide to leave educational programs for many of reasons. To better understand students' concerns, Bollinger and Halupa (2012) analyzed 84 first course doctoral students in four areas related to anxiety and satisfaction through the use of an 18-item anxiety tool and a 24-item satisfaction tool. Students were doctoral level and enrolled in a writing intensive course. Bollinger and Halupa (2012) explored student anxiety expressed over the use of the computer, the Internet, and online course delivery, as the literature supported each of these areas as potential areas of anxiety for students. Anxiety provoking experiences reported by the students included their lack of information literacy that highlighted their inability to navigate the Internet and locate appropriate resources. Bollinger and Halupa (2012) noted a correlation between higher levels of satisfaction and reduced anxiety. Enhanced student orientation, utilizing student-centered approaches, and planned interventions be used to lessen student apprehension were recommended. Faculty need online experience and literacy skill sets in their interactions with doctoral students in online doctoral programs to generate increased student satisfaction.

Exploration of the doctoral curricula has been studied to identify how to strengthen and guide individuals in doctoral programs (Kumar, Dawson, Black, Cavanaugh, & Sessums, 2011) with the application of research-based knowledge and the link of context-based knowledge to enhance and improve the practice. Stallone (2004) assessed four characteristics associated with doctoral student retention: (a) persistence (b) cultural diversity, (c) relational characteristics, and (d) college engagement. It was noted in Stallone's (2004) research that psychological/relational factors are the most identified cause for student attrition. The human quality factors are what

assisted the student in achieving doctoral success. Kumar et al. (2011) reported 94% of the doctoral students agreed that their expectations were met during the initial year of their doctoral training, with most students identifying faculty member's support as the key ingredient of strength.

It appears plausible that faculty, when viewing student work, could provide added support, direction to resources, and encouragement during academic periods of challenge. However, it appeared that this would require a more relational quality to the professor–doctoral student relationship. Kumar et al. (2011) explained how presence, feedback, and support were strengths of a doctoral program. For example, interactive faculty presence was a significant factor in whether a student would persist. Kumar et al. (2011) found that faculty needed to possess organizational skills, have training in online pedagogy, institutional support, and access to resources that assisted with research skill training. Kumar et al. (2011) concluded it was beneficial to have fostered social presence at the program's inception through planned interaction due to the decisive influence on student's motivation and participation.

Faculty Status and Online Experience

Understanding the necessary skills and relevant experiences faculty would need for successful online doctoral support was significant. Green, Alejandro, and Brown (2009) administered a survey to determine the characteristics of experienced online faculty displayed that either encouraged or discouraged their retention to provide online college instruction. The survey was to generate a list of retention strategies designed for online distance education faculty. The study was to help college administrators lower online faculty turnover, a common and costly problem in online education by considering motivating, discouraging, and encumbrance factors.

Green et al. (2009) reported previous studies had identified motivating factors that enhanced faculty retention to be flexible hours, innovative pedagogy, acquiring new technological skills, and expanding faculty career opportunities. The study also reported unfavorable aspects that included added time and effort required to teach online courses, lack of monetary compensation, limited organizational support structures, faculty inexperience, and the faculty member's lack of technological skills. The greater problem was in the perceived lack of vision by administration for online education.

Encouraging factors, as noted by these researchers included: mentoring, continual training, collaboration with on-site faculty, and enhanced engagement within organizational community of the college. Earlier findings supported by the study added several clarifications. Green et al. (2009) also found faculty discouraged by the lack of student production of online coursework and recommended more orientation opportunities for students. For example, in the first years of doctoral programs, students begin to deal with isolation. Further development was based upon the connections made that support or understands the student. In essence, Ali and Kohun (2006) stressed the importance of the university offering various opportunities to share, converse, and collaborate for the sense of support and even possible cohort preparation programs. The faculty stated they needed a fair system of compensation and greater flexibility in the work hours. Green et al. (2009) maintained that online college education was continuing to grow and the need for skilled faculty was ever greater. The researchers study concluded that online faculty would benefit from assistance in instructional design, added training, and early mentorship for new online faculty to reduce online faculty turnover. It appeared that the faculty factors were tied to the college administration and the instructional design of the course.

Seaman (2009) found the faculty delivering online courses to be both experienced and novice, part-time and full-time, or "at every stage of their career" (p. 8). The researcher reported the top ranking concern among faculty surveyed was that online course preparation required more time than conventional classroom delivery. The data also indicated they needed assistance with support and incentives. Only one third of the surveyed faculty had taught an online course, and even less were currently online instructors at the time of the inquiry. The faculty paradoxically expressed some concerns about online programming while most had at some time recommended it as a viable option to students. The contradictory nature of the faculty responses was reflective of the distant role of administration to the unique support needs on online programming at their colleges.

As Seaman (2009) had poignantly noted, student outcomes needed to be brought into the discussion when comparing online to traditional doctoral programs. Factors of faculty to student time, the enhancement of relational qualities between instructor and student, and experienced instructors, each contributed to student persistence. The interaction between faculty and students needed further clarification and example. Doctoral programs were training the highest level of educators, and as such, were exemplars of the skill set needed for their professional success.

Course Room Time

Mentoring, according to Columbaro (2009), had all of the benefits in the virtual environment and few of the historical limitations. Columbaro (2009) contended that exemplary professors could mentor doctoral students and prepare them for professional challenges in the real world. She explained that mentorship was essential to describing the relational quality of the professor and student and preparing them for professional placement. The students that were unengaged in mentoring needed to be motivated, a significantly different problem. Online faculty had few incentives to reinforce student productivity.

Understanding student productivity in the online environment was addressed by experienced online faculty in several different ways. Meyer and McNeal (2011) in a qualitative study interviewed 10 online faculty to determine what methods maximized student productivity in the online environment. The researchers selected faculty from different states and diverse disciplines that taught masters and doctoral coursework. Meyer and McNeal (2011) analyzed six factors that enhanced student learning, which included, (a) student access to content, (b) changing the faculty role and accessibility, (c) escalating interaction with learners, (d) promoting student effort and academic experiences (e) projects reflecting real world application, and (f) encouraging time management. Faculty reported pedagogical methods that increased student productivity were creating relationships, student engagement, timely responding, planned intervals for communication, assignment reflection, well organized course structure, applied technology, adaptable, and having the utmost in expectations for the student. The researchers recorded the innovative and problem solving techniques each of the professors employed to address issues in their online coursework to incorporate the six research themes.

Meyer and McNeal (2011) reported each of the 10 professors found that online learning, when soundly designed to cover the six themes, contributed to student productivity and reflected a willingness of faculty to provide creative solutions in learning. Meyer and McNeal (2011) found each faculty member effectively used access to content, their faculty role, increased their interaction, encouraged student effort, required real world applications, and stressed time usage consistently over their course, regardless of their discipline. Each of ten faculty analyzed found

creative solutions for program issues that fit in the themes identified by Meyer and McNeal. The Meyer and McNeal (2011) faculty themes provide excellent framework for online coursework design.

Conclusion

Literature indicates student persistence is negatively impacted by anxiety, and was positively affected by faculty presence that contributed to student satisfaction (Bollinger & Halupa, 2012; Kumar et al., 2011; Stallone, 2004). Faculty status, training, incentives, and experience contributed significantly to both faculty and student retention (Green et al., 2009; Lee et al. 2009; Seaman, 2009). The literature review also indicated that course room time was best accomplished collaboratively with other faculty and modeled after institutional mentoring practices (Columbaro, 2009; Meyer & McNeal, 2011).

Overall, the literature review reveals the crucial role of the relational quality of the instructor and student relationship to the student's ability to persist in an online doctoral program. The quality of the faculty- student relationship regardless of mentorship, or facilitative relationship would be difficult to determine prior to the ending of a course. Each of the studies had noteworthy findings but lacked clear benchmarks of time, frequency, and correlates to student outcome. Gaps in the research of online doctoral student's persistence have common features. None of the studies indicated that actual measurement of time spent online, frequency of faculty contacts, and correlation to course outcomes. Measures would provide good markers of student progress, persistence, and engagement throughout the doctoral level course. If such indicators could be benchmarked, it is reasonable to use them throughout a given course by experienced online instructors as flags warranting potential intervention and the needed support of the instructor. These timeframes could be technologically embedded for faculty that show which students have had little contact, few or no interactions with the instructor, and may not persist without faculty intervention. This research would contribute to our understanding of retention as it uniquely relates to the doctoral student and the vital role of the faculty in the online environment.

Methodology

Online educational institutions continue to magnify the opportunities for students to expand their educational studies. Although many students are enrolling in doctoral programs, the completion of the coursework has become a challenge and concern. The purpose of this study was to determine if a correlation exists between faculty and student time spent in online doctoral course rooms and student persistence. The results could provide institutions with knowledge specific to the retention of doctoral candidates through the final stage of completion. Understanding students' academic achievement and persistence to complete their doctoral studies is critical to the success of the programs and can provide strategies for students who are at risk of academic failure or who may even drop out from the online doctoral program.

The study was quantitative, using archived data--*expo facto*--to determine if a correlation existed between the dependent variable, student persistence, and the independent variables, faculty and student time spent in doctoral online course rooms. The data was collected from the Educational Leadership (EDL) and Instructional Design and Technology (IDT) courses from years 2009 to 2012, at a Level 6, not-for-profit research institution in South Florida. The IDT program began in 2012.

Population

Students enrolled in the EDL and IDT PhD program represent diverse backgrounds and locations. Thirty states are represented, as are China, Ghana, and Puerto Rico. Racial distribution is equally diverse with 46% of the students being White, 38% African American, 11% Hispanic, 1% native Hawaiian, and 4% Other. Ages of the students range from 27-81 years and 67% are female and 33% are male. Fifty-five percent of the students are married, 25% are single, 17% are divorced, and 3% are separated.

Research Questions

1. Is there a statistically significant correlation between faculty time in the Educational Leadership and Instructional Design and Technology doctoral online course rooms and doctoral student persistence?

2. Is there a statistically significant correlation between student time in the Educational Leadership and Instructional Design and Technology doctoral online course rooms and doctoral student persistence?

Procedures

Archived data consisted of 1782 records of students who took online doctoral classes in EDL and IDT programs. Students could have taken more than one course; therefore, individual students were pulled out to identify better the number of courses that each student took. The data was aggregated (collapsed) to a single, individual case to determine the average amount of time each student spent in all course work. This was done so that we had independence. To conduct an independent sample T-test, the assumptions of that statistical test—independent samples, needed to be met.

Because the same students appear more than once in the data set—most students having taken multiple courses, a correlation was not initially conducted because the cases were not independent of one another. For example, student A would be highly correlated with student A. Student A could appear in the data as much as 17 times in the data set, which makes students highly correlated with themselves. In addition, students who spent a lot of time in their first class all the way through to their 17th class were going to be very similar to themselves. There were 179 persisters and 69 students who dropped, weighting the data to favor persisters, which violates our assumption of independence. The data was then collapsed so that each student appears in the data only once. An average was determined. The total amount of time spent in all classes taken by each student and divided it by the number of course they took. Persisters' time in courses was compared to students who dropped out of the program, allowing the independent assertion to be made. The instructors' minutes spent in the course and the students' time spend in the course created a mean called I average time and S average time. The files were each collapsed to create unique, aggregated file that consisted of 260 students. A total of 260 students took between 1 and 17 courses. Of those 260 students, 63 dropped at some point and 197 persisted (coded as 1 and 0 respectively). An independent sample t-test was selected for the analysis because it allows for comparisons between two variables, two dichotomous groups, and to find out if those who were coded as 1, persisters, and those who were coded as 0, non-

persisters, were significantly different in the amount of time that they spent in their courses on average.

Results

1. Is there a statistically significant correlation between faculty time in the Educational Leadership and Instructional Design and Technology doctoral online course rooms and doctoral student persistence?

An independent-samples t-test was conducted to compare the average amount of time individual **instructors** spend in an online Ph.D. program spent in course rooms and the persistence or non-persistence of their students in the program (see Appendix A, Table 1). These results were highly significant as indicated by the alpha level was 0.001suggesting; however counter intuitively, those students who did not persist had on average instructors that spent significantly longer amounts of time in the courses than those who persisted. Significant difference in the scores for Instructor Average Amount of Time in Courses and (M = 4.2, SD = 1.3) and students who persisted and those who did not (M = 9516, SD = 2628); t (257) = 4.565, p = 0.000.

2. Is there a statistically significant correlation between student time in the Educational Leadership and Instructional Design and Technology doctoral online course rooms and doctoral student persistence?

An independent-samples t-test was conducted to compare the average amount of time individual **students** in an online Ph.D. program spent in course rooms and their persistence in the program (see Appendix A, Table 2). There was no significant difference in the scores for Student Average Amount of Time in Courses (M = 4397, SD = 3048) and students who did not persist and those did (M = 5187, SD = 3049); t (257) = -1.780, p = 0.076. These results suggest that the time students spend in online courses does not play a role in persistence. Specifically, our results suggest that there is no statistically significant difference between persisting students and non-persisting students in the average amount of time they spend in their online courses at the .05 alpha level. It was shown to be significant at an alpha level of .1, suggesting that those who dropped out of the program spent significantly less time, on average, than those who persisted.

An independent samples t-test was conducted to compare the gender of students in an online Ph.D. program and their persistence in the program. There was no significant difference in the scores for **gender** for those students who did not persist (M = .31, SD = .465) and those did (M = .32, SD = .470); t (257) = -.270, p = 0.787. These results suggest that the gender of students does not play a role in persistence. Specifically, our results suggest that there is no statistically significant difference between persisting students and non- persisting students and gender at the .05 alpha level.

Discussion

Faculty time in EDL and IDT doctoral course rooms revealed a statistically significant correlation between the faculty time in course rooms and students who did not persist. Interestingly, the results do not reflect the current thinking that faculty are productive and available while logged on. Meyer and McNeal's (2011) study indicated faculty effectively used

access to content, their faculty role, increased their interaction, encouraged student effort, required real world applications, and stressed time usage consistently over their course, regardless of their discipline. Although both studies seem to be contradictory, the question still remains; what do faculty do when logged on? Some faculty might grade lengthy papers while logged on and others might download all papers and grade while offline. Others might be answering phone calls and e-mail while logged on. Another interesting finding was the years teaching and minutes spent online and student persistence. The data indicated that the more experienced faculty spent more time logged into their online classes. If the greatest influence on retention is the connection to faculty, then logically, the more time spent in the course room should have a positive effect on student persistence. Seidman (2005) asserted faculty members have the most influence on the attitudes of students; and therefore, the "greatest effect on retention" (p. 223). The current study indicates that faculty time alone is not a factor in student persistence.

Student Time

The findings of this study revealed that student time in EDL and IDT online courses at the doctoral level was not a significant factor in student persistence and time was not a predictor for students who might drop out. A limitation of this study was the inability to gage how students were using time when logged into the EDL and IDT online course rooms. Some students might prefer to download materials and work offline, which results in fewer minutes logged compared to students who are logged in while reading, writing, or just away from their computers. Another consideration is the computer expertise of students, especially in the first two courses. Because many students have not taken online courses and/or have been out of school for many years, learning to maneuver in the course room and in the programs needed to complete assignments might have added to the login time. Time logged in doctoral online courses is only one piece of the retention puzzle. Other factors mitigate student decisions to dropout (see Appendix A, Table 3).

Summary

Retention rates in PhD programs have gained increased attention (Cassuto, 2010). The focus has been on the dissertation stage, not the coursework (Cassuto, 2010). All students, regardless of interventions and best practices offered, are at risk of dropping out. Although connectedness to the faculty and the university have a positive influence on retention rates (Seidman, 2005), the student time logged into the EDL and IDT doctoral programs was not a factor in persistence. However, faculty time logged in had a negative impact—more time, higher dropout rates. Suggestions for future research might include a qualitative study exploring what faculty and students do while logged into online course rooms.

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Appendix A

Table 1
Independent Samples t-Test

	Dropped (N = 62)		Persisted (N = 197)		
	M	SE	M	SE	p
Male	.31	.059	.32	.033	.787
Student Average Time	4397	387	5187	217	.076
Instructor Average Time	9516	333	7999	154	.000

	Dropped (n=62)		Persisted (n=197)		
	M	SE	M	SE	t Test
Male	30.6%	.06	32.5%	.03	
Student Average Time	4397.2	387.19	5187.6	217.26	†
Instructor Average Time	9516.1	333.76	7999.8	154.01	*
Number of Courses Taken	3.8	0.46	7.8	.38	*

†p<.10, *p<.001

Table 2
Additional Variables

Correlations		IMGender	FTPT	IYrsExp	Instaverag eTime	PropPerst
IMGender	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	27				
FTPT	Pearson Correlation	.371	1			
	Sig. (2-tailed)	.074				
	N	24	24			
IYrsExp	Pearson Correlation	.362	.635**	1		
	Sig. (2-tailed)	.082	.001			
	N	24	24	24		
InstaverageTime	Pearson Correlation	.058	.387	.474*	1	
	Sig. (2-tailed)	.774	.062	.019		
	N	27	24	24	27	
PropPerst	Pearson Correlation	-.227	-.295	-.117	-.075	1
	Sig. (2-tailed)	.255	.161	.587	.711	
	N	27	24	24	27	27
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

*None of the variables of interest, (faculty gender, faculty full time vs part time status, faculty years of experience, or average time faculty spent in the course per student) were correlated with student persistence.

*The proportion of students who persisted (PropPerst was our Dependent variable) was computed by taking the total number of students a particular faculty had had in an online course during the study period (ranging from 5 to 213 students) and calculating the proportion of students that persisted compared to those that dropped from the program (range .6 or 60% persisted to 1 or 100% of that faculty's students persisted).

Table 3

Student Reasons for Dropping 2009-2012

Reason Code	Number of Students	Reason Code	Number of Students
0-No reason	43	58- Military deployment	1
37-Excessive absences	1	59-Money difficulties	4
40-Academic dismissal	3	60-Moving from area	1
46-Default on loans	3	61-Personal reasons	6
47-Did not return from leave	2	64-Student request	39
48-Missing required documentation	2	68-Transfer to another school	2
50-Emergency	1	70-Unhappy with program	2
51-Family problems	2	74-Work related	1
52-Financial aid complications	4	296-Unknown	1
53--Health problems	13	297-Academic	11
55-Job conflict	2	340-Financial problems	1
57-Missing, no contact	11	372-Failed class	1

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