7-30-2012

A Grounded Theory of Connectivity and Persistence in a Limited Residency Doctoral Program

Steven R. Terrell
Nova Southeastern University, terrell@nova.edu

Martha M. Snyder
Nova Southeastern University, smithmt@nova.edu

Laurie P. Dringus
Nova Southeastern University, laurie@nova.edu

Elizabeth Maddrey
Kaplan University, elizabeth_maddrey@gmail.com

Follow this and additional works at: https://nsuworks.nova.edu/tqr

Part of the Quantitative, Qualitative, Comparative, and Historical Methodologies Commons, and the Social Statistics Commons

A Grounded Theory of Connectivity and Persistence in a Limited Residency Doctoral Program

Abstract

Limited-residency and online doctoral programs have an attrition rate significantly higher than traditional programs. This grounded-theory study focused on issues pertaining to communication between students, their peers and faculty and how interpersonal communication may affect persistence. Data were collected from 17 students actively working on their dissertation in a limited-residency educational technology program. The resultant theory indicated that students felt communication between themselves and peers is possible but not common. Students also indicated that dissertation supervisors are readily accessible but longer than expected response times may contribute to a lack of student success. The results suggest the development and effective use of an online community of practice will support the communication needs of students and faculty.

A Grounded Theory of Connectivity and Persistence in a Limited Residency Doctoral Program

Steven R. Terrell, Martha M. Snyder, and Laurie P. Dringus
Nova Southeastern University, Fort Lauderdale, FL, USA

Elizabeth Maddrey
Kaplan University, Plantation, FL, USA

Limited-residency and online doctoral programs have an attrition rate significantly higher than traditional programs. This grounded-theory study focused on issues pertaining to communication between students, their peers and faculty and how interpersonal communication may affect persistence. Data were collected from 17 students actively working on their dissertation in a limited-residency educational technology program. The resultant theory indicated that students felt communication between themselves and peers is possible but not common. Students also indicated that dissertation supervisors are readily accessible but longer than expected response times may contribute to a lack of student success. The results suggest the development and effective use of an online community of practice will support the communication needs of students and faculty. Keywords: Doctoral Study, Dissertation, Attrition, Limited-Residency, Online Communities of Practice, Qualitative Research

Historically, the attrition rate of doctoral students has been 40% to 50% (Bowen & Rudenstine, 1992; National Center for Educational Statistics, 2000; National Research Council, 1996; Smallwood, 2004). Attrition rates for distance-based programs (Rovai, 2002) and specifically, distance-based doctoral programs (Terrell, 2005a) can be 10% to 20% higher. In addition to limiting applicants for jobs where doctoral degrees are required, attrition wastes financial and temporal resources of the institution, faculty, and students (Gardner, 2010; Golde, 2005).

Studies have shown that the majority of doctoral students are capable of completing their degrees and many of the barriers that students face pertain to institutional and program characteristics (Bowen & Rudenstine, 1992; Golde 2005; Lovitts, 2001). However, the bulk of the research on persistence has focused on traditional doctoral programs. Students in traditional programs are typically fulfilling a research or teaching assistantship while attending school full-time on campus. In addition, these students tend to be younger, enrolling directly after graduation from a bachelor's or master's program (Holder, 2007). In contrast, the degree program investigated in this study is offered primarily online, requiring students to participate on campus for either two extended weekends or one full week each semester. These students typically have careers and families that they are balancing with their graduate education. In addition, students are geographically diverse, with none residing on campus and few residing in the immediate area. Given the distinctiveness of the population, it is reasonable to suppose that these students will have different life experiences during their

tenure in the program and that their decision to persist will be based on factors not entirely the same as students in a more traditional setting.

Goal

The goal was to use a grounded theory approach to understand the life experiences of dissertation students in a limited-residency doctoral program in a private metropolitan university in the Southeast. A grounded theory approach is useful in helping to understand the needs of this unique population of doctoral students so that appropriate interventions can be implemented (Creswell, 2005). Specifically, this study focused on issues pertaining to communication between students and faculty and students and their peers, and how these issues may affect dissertation students' persistence in the program.

Background and Significance

Interest in blended learning is increasing (U.S. Department of Education, 2009) and the number of colleges and universities that offer doctoral programs using a blended learning model is becoming more commonplace. These limited-residency doctoral programs enable working professionals to complete their doctoral degrees while simultaneously maintaining their professional careers. Students come to campus for face-to-face instruction and other program activities once or twice during the semester; however, most of the teaching and learning take place in a virtual environment.

When students enter the dissertation phase of doctoral study, most of the communication between the dissertation student, chair, and committee occurs online. Studies indicate that students may feel isolated and disconnected from faculty and their peers during the dissertation stage (Lovitts, 2001, 2005) and these feelings may affect a student's decision to persist in the program (Rovai, 2002). For students who are in distance education programs and do not come to campus, these feelings may be exacerbated (Terrell, Snyder, & Dringus, 2009).

Researchers investigating the causes of attrition have explored the relationship between attrition and funding (e.g., Ehrenberg, Jakubson, Groen, So, & Price, 2007), student and advisor relationships (e.g., Lovitts & Nelson, 2000), gender and ethnicity (e.g., Cohoon, Wu, & Chao, 2009; Gardner, 2008), specific disciplines (e.g., Golde, 2005; van Ours & Ridder, 2003), intelligence and learning styles (e.g., Lovitts, 2008; Terrell, 2002), and the socialization experiences of students (e.g., Gardner, 2010, Lovitts & Nelson, 2000). Given the complex nature of an individual's decision to withdraw from a specific program, however, it is challenging to find and understand patterns that might lead to solutions that can be applied across institutions and disciplines (Golde, 2005; van Ours & Ridder, 2003).

Research surrounding persistence in graduate programs indicates that a variety of factors may influence student persistence. Ivankova and Stick (2007) identified the program, the online environment, faculty, student support services, self-motivation, community, and advising as the seven primary factors that influenced persistence in one distributed doctoral program. Other studies have shown only intrinsic motivation was found to have a statistically significant effect on student persistence (Terrell, 2005b). Groen, Jakubson, Ehrenberg, Condie, and Liu (2008) stated that improved financial aid

opportunities increased persistence in the program; however, this persistence did not translate into an increase in degree completion.

Gardner (2008) echoes all of these factors as indicative of persistence, but points out that departmental perception of success can influence student persistence and completion. Faculty in departments with high persistence and completion routinely state that self-motivation, self-discipline, and an ability to work independently are hallmarks of successful students. Departments with higher than average funding from the institution also displayed higher persistence and completion rates than less well-funded departments at the same institution. Departments with lower persistence and completion rates are less likely to concisely define success, leading Gardner to surmise that an ability to convey terms for success to students may play a role in student persistence and, ultimately, completion.

Methodology

The idea of using online communication tools to collect qualitative data has evolved under the umbrella term *webnography* (Carter, 2005; Hine, 2000). In this case, an online survey (Appendix) was used by participants to address the over-arching research question: What are the issues related to student-to-student and student-to-faculty communication while working on a dissertation that affect retention or attrition in a limited residency doctoral program?

At the university at which this study took place, the student is required to submit three dissertation documents: an idea paper, a dissertation proposal, and a dissertation report. The idea paper focuses primarily on the problem statement and includes a limited review of the literature and a proposed methodology. Once the dissertation chair and the committee approve the idea paper, the student proceeds to write the dissertation proposal and dissertation report. Each document must be approved by the student's dissertation committee.

While enrolled for dissertation credit, faculty members interact with students using a software system designed specifically for tracking student progress, the submission of documents, etc. Following Institutional Review Board approval, participants for this study were solicited via e-mail based solely on their current registration. The e-mail explained the purpose of the study, the student's role in the study, a statement assuring anonymity and an explanation that their consent was indicated by their participation in an online survey. A total of 17 students, representing three different dissertation advisors responded and volunteered to participate in the study. Each student received a follow-up e-mail with a URL link to the survey along with instructions for its completion.

Approximately 80% of the students were in at least their fourth year of the program and had enrolled in an average of 5.8 terms for dissertation credit. The sample was 65% male with 64.7% of all students yet to complete their idea paper. We used a questionnaire to collect demographic data, participants' perceptions of student-to-student and student-to-faculty communication, and program specific information such as opinions about technological infrastructure and support.

Open and Axial Coding

Data analysis for a grounded theory study begins with the open-coding of transcripts. In order to do so, researchers must read each sentence of the transcript and assign a code reflective of the general ideas underlying the overall phenomenon of the text (Glaser & Strauss, 1967). These codes represent the highest level of abstraction and allow the researcher to identify axial codes based on one or more common themes within the open codes. The analysis concludes with the development of a selective code tying the axial codes into an overarching theme; this selective code is the center of the proposed grounded theory. In this case, initial analysis by the researchers resulted in 343 open codes; during the process of axial coding, six codes were identified.

- Reasons for attending an online limited-residency doctoral program.
  The most often stated reasons for attendance in the program were high levels of intrinsic motivation (e.g., "I wanted a Ph.D. since the age of 12.") or as a requirement current or desired job (e.g., "The terminal degree is required to attain full professor rank."). Others expressed a desire to teach and conduct research.
- Potential predictors of attrition.
  Nearly two-thirds of survey respondents perceived a lack of caring on the part of the faculty; this was reflected in comments such as "[No] one seems to care. It would be nice if I had someone who felt that they should follow-up with me" and "The feeling of being alone, with minimal direction and support." Others stated that financial concerns were impeding their progress.
- Reasons for persistence.
  Students indicating they would stay in the program most often felt the program met their expectations (e.g., "it has been basically what I expected") while a nearly equal number felt the knowledge gained would lead to persistence in the program. Others commended the faculty, facilities and the opportunity to self-actualize.
- Communication tools and use.
  Every student interviewed commented on tools used in the pedagogical process (e.g., the dissertation tracking system, e-mail, discussion forums, etc). The majority indicated the tools positively supported the learning environment (e.g., "the dissertation tracking system is a great tool … to see your progress" and "the DTS is an excellent organizational and documentation tool"). Students were less complimentary of the faculty's actual use of these same tools (e.g., "the tools are OK, just need faculty attention more!").
- Student-to-student communication while working on the dissertation.
  Four distinct sub-codes were identified; these will be discussed in detail in the following section.
- Student-to-faculty communication while working on the dissertation.
  This axial code also yielded four sub-codes; these will further discussed in the following section.

Narrowing the Axial Codes and Developing the Selective Code

When we examined the codes developed during axial coding, we determined that the first four codes were common to students in both the coursework and while working on the dissertation. Given that, those codes were not considered for the grounded theory. We analyzed the two remaining codes–student-to-student communication while working on the dissertation and student-to-faculty communication while working on the dissertation.

Student-to-Student Communication While Working on the Dissertation. Within student-to-student communication, four sub-categories emerged, including (a) willingness to help one another; (b) communication with one another; (c) the development of virtual groups; and (d) experiences with other students. Based on the number of open codes in the first three sub-categories, it became clear that students are willing, to a great degree, to help one another if needed. Examples of these comments included:

1. *I have found guidance from other students and other students have found guidance from me. Students are already willing to help.*
2. *I am certain I could ask for their assistance and they would be willing to help if they could.*
3. *I'm sure, almost to a person, they would be help in any way they could.*

Contrary to expectations, however, over two-thirds of the respondents indicated they infrequently or never contact their peers who are working on their dissertation:

1. *I don't feel connected to anyone else in the program so I would not know who to ask for help.*
2. *I'm sporadically (maybe 1 email every term) in contact with one other student.*
3. *I have found guidance from other students and other students have found guidance from me.*
4. *I am too busy. I have a dissertation to write, no time to join a social club.*
5. *I would not want to. They have little to offer that can help me get any work done.*

Given the importance that student-to-student connectedness in predicting attrition from doctoral programs (Lovitts, 2001), a lack thereof can be detrimental to the probability of success.

Student-to-Faculty Communication While Working on the Dissertation. Student-to-faculty communication also resulted in four sub-categories: (a) faculty feedback; (b) ease of contact with faculty; (c) relationships with faculty; and (d) dissertation support issues. The fewest number of open codes were identified as

relationship issues with the faculty, and students generally agreed that a bond with a faculty member can exist and is desired by students.

1. *Absolutely. As I said before, you have a great team that is supportive and welcome.*
2. *Many students need to have a strong bond.*
3. *It [i.e., a bond] is possible but the university will need to make many drastic changes.*
4. *I think it [i.e., a bond] is possible, absolutely, but the students who need it are going to be the ones to have to pursue it. I think they are very open to initial discussion.*

In examining faculty feedback, students were nearly evenly split in agreement that faculty feedback was timely, but generally agreed that the quality of feedback was valuable.

1. *Always valuable, without exception. Timely, almost never.*
2. *I received feedback in a very timely manner throughout my program.*
3. *Valuable, absolutely. Timely, half of the time.*
4. *I have … and have been amazed at the return time.*
5. *Mixed. One case no. I moved on. In the current case, yes.*

More importantly, an overwhelming number of responses indicated a need for mentorship and other help with the process, with some offering suggestions as to how the process could be improved.

1. *The faculty are experts on the topic and should better direct the student.*
2. *It will be nice for faculty to reach out to those who are struggling.*
3. *Any assistance from faculty will be appreciated.*
4. *Everyone knows the process. The help is what is required.*
5. *How about requiring on-site attendance (2 days) every other semester of dissertation?*
6. *Required web meeting attendance once a term might work.*
7. *It is a lonely, difficult process. Other schools have mechanisms in place to help students develop their ideas for dissertations.*

An equivalent number of students commented on ease of contacting faculty members with a large number agreeing that it was at least moderately easy to contact faculty members. Several students offered insight as to why faculty members were not easy to approach, including the inability to work on dissertations with adjunct members

they had met in coursework, the limited capacity of each faculty member to chair doctoral dissertations, and the need for on-campus and Web-enabled support meetings.

1. *Faculty are always very open to discussion ideas for dissertation.*
2. *It's always easy to communicate with them.*
3. *[Contacting faculty is] not a problem. Good and timely communication exists.*
4. *It has been very easy.*
5. *My impression of most faculty was that they were really too busy to spend anything but a modicum of time discussing my issues or concerns.*
6. *Many of the classes taught were by instructors who now are not permitted to chair a committee...I would choose classes which were taught only by those instructors who I could now approach with a proposal.*

The Development of a Grounded Theory

The value of student-to-student and student-to-faculty communication becomes important to doctoral candidates while working on their dissertations in a limited-residency program. The majority of students, however, have little or no contact with one another while working on their dissertations. By not having this, they are not taking advantage of a willing support group, which has been shown to contribute to success for doctoral students in a traditional environment (Lovitts, 2001).

Students actively seek guidance from faculty members and believe their feedback is useful. Students are frustrated, however, by slow response times, lack of mentorship and inability to help the students identify and begin work on a research topic suitable for a dissertation. Students contend these issues may be due to a lack of structure within the program, the failure to assign mentors to students as they enter the program or candidacy, and a belief that faculty members are overburdened with the number of students in the program. These perceptions may lead to students' feelings of non-support and a lack of caring from the faculty and staff.

Figure 1. Conditional Matrix of the Grounded Theory.
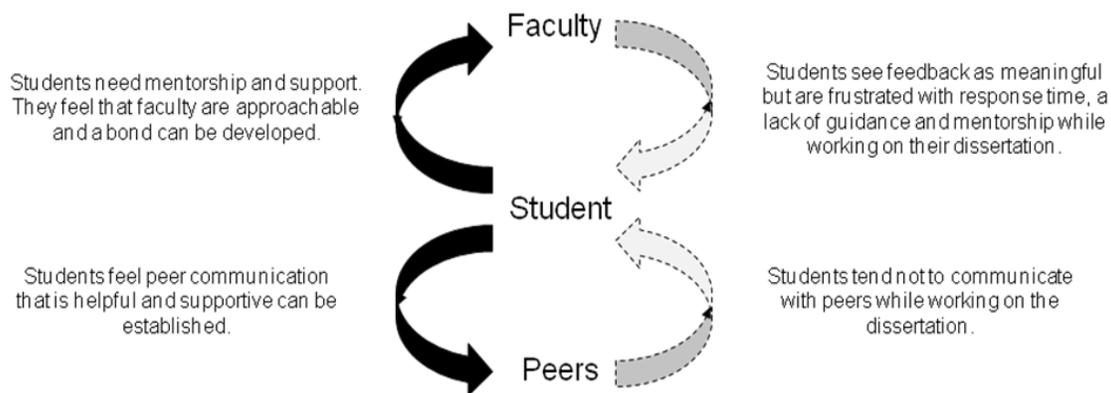
The resultant theory represents two separate, but interacting, components. First is the interaction between the students and their dissertation chair and committee and the iterative nature of dissertation work (i.e., submitting work, waiting for feedback, reacting to the feedback and then submitting new or additional material). Second is the lack of interaction with peers, which represents a readily available peer support group.

As noted by Charmaz (2006), conditional matrices serve "as a way of providing a visual representation of observed transactions in the empirical world and their interactions and inter-relationships" (p. 118). In this case, the conditional matrix showing the transaction interaction is shown in Figure 1.

Limitations

Two limitations of this study are noted: first, the results reflect the feedback from students in one limited-residency doctoral program. Students in other program formats and at other educational levels may report different attitudes and opinions.

Second, students from two distinct programs within a school of computer and information sciences participated in the program. This issue is perhaps ameliorated by the fact that approximately 75% of the faculty teach in both programs.

Suggestions for Future Action and Research

The following suggestions for future action and research are offered from both methodological and developmental-evaluative perspectives. In particular, attention should be focused on identifying and interviewing students who have failed to complete their degree within the prescribed time limit; emphasis should also be placed on more purposive sampling with a focus on students in the later years of the program. Data from both of these populations could serve to further validate the theory. Additionally, homogenous groups representing a specific major within the school should be the focus of additional research.

From a developmental-evaluative perspective, educators and administrators at the institution must seriously consider these results and their influence on both the viability and the reputation of the institution; a two-pronged approach is recommended. First, it was found that although students feel that the faculty members are approachable, they are frustrated with the lack of guidance and mentorship while working on their dissertation. The Council of Graduate School's (CGC) *Ph.D. Completion Project* (www.phdcompletion.org) identifies six areas of promising practices for the development of intervention strategies that can impact doctoral completion rates and attrition patterns. These areas include: student selection and admissions, mentoring and advising, financial support, program environment, research experience, and curricular and administrative practices and procedures. It would be worthwhile to consider intervention strategies specific to mentoring and advising. The CGC identifies the following common themes related to mentoring and advising: improving the support structure between doctoral dissertation chairs, committee, and students; encouraging collective responsibility within the program for the doctoral student's success; providing explicit guidelines and expectations regarding the dissertation process, and developing better conflict resolution strategies (www.phdcompletion.org).

Second, given the importance of peer relationships and interaction during the dissertation process, it is imperative that support structures are in place to support a distributed group of learners. One way to support student-to-student and student-to-faculty interaction is through the development of community. Specifically, building an online learning community or a community of practice (CoP) can enhance learning and increase connectedness by enabling members to interact with each other and participate in collaborative learning experiences (Rovai, 2002; Tinto, 2007; Wenger, 1998). For example, the goal of the proposed StaR CoP (see Figure 2) would be to support dissertation students in their effort to transition from a scholar to a researcher, provide a structured online environment that supports student-to-student and student-to-faculty interaction, and foster and sustain a community of scholars (faculty and doctoral students) that advances the learning of all members.

Figure 2. Graphical Representation of Proposed Online Community of Practice for Dissertation Students.

From a Scholar to a Researcher (StaR) Community of Practice

Conclusions
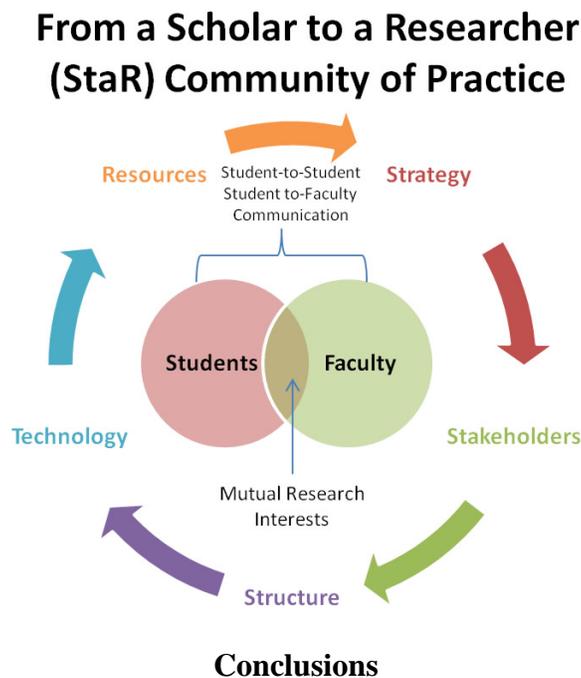
Attrition is both expected and unavoidable in higher education; personal, academic and financial issues will continue to cause many students to leave their chosen program of study. In an effort to better understand these issues at the doctoral level, to date, the vast majority of research has focused on traditional residential programs. While many of these same issues will continue to affect doctoral students in online or limited residency programs, other problems may be introduced or exacerbated due to the program structure.

The theory developed from this study suggests that, much as is the case with students in traditional educational environments, low levels of student-to-student and student-to-faculty interaction may contribute to higher than average levels of attrition. These low levels of interaction are exacerbated by the limited face-to-face interaction in

programs of this type. The implementation of intervention strategies specific to mentoring and advising coupled with the development of an online CoP to support student-to-student and student-to-faculty interaction and sharing of ideas should be used to empirically test the theory postulated by the current research as well as guide administrators, faculty, and students in the development of best practices for these types of limited-residency doctoral programs.

References

Bowen, W., & Rudenstine, N. (1992). *In pursuit of the Ph.D.* Princeton, NJ: Princeton University Press.

Carter, D. (2005). Living in virtual communities: An ethnography of human relationships in cyberspace. *Information, Communication & Society, 8*(2), 148-167.

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Thousand Oaks, CA: Sage.

Cohoon, J., Wu, Z., & Chao, J. (2009). Sexism: Toxic to women's persistence in CSE doctoral programs. *Proceedings of the 2009 ACM SIGCSE Conference,* 158-162.

Creswell, J. (2005). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage.

Ehrenberg, R., Jakubson, G., Groen, J., So, E., & Price, J. (2007). Inside the black box of doctoral education: What program characteristics influence doctoral students' attrition and graduation probabilities? *Educational Evaluation and Policy Analysis, 29*(2), 134-150.

Gardner, S. K. (2008). Fitting the mold of graduate school: A qualitative study of socialization in doctoral education. *Innovative Higher Education, 33*(2), 125-138.

Gardner, S. K. (2010). Contrasting the socialization experiences of doctoral students in high- and low-completing departments: A qualitative analysis of disciplinary contexts at one institution. *The Journal of Higher Education, 81*(1), 61-81.

Glaser, B. G., & Strauss, A. L. (1967). *Discovery of grounded theory: Strategies for Qualitative Research*. Mill Valley, CA: Sociology Press.

Golde, C. M. (2005). The role of the department and discipline in doctoral student attrition: Lessons from four departments. *The Journal of Higher Education, 76*(6), 669-700.

Groen, J. A., Jakubson, G., Ehrenberg, R., Condie, S., & Liu, A. (2008). Program design and student outcomes in graduate education. *Economics of Education Review, 27*(2) 111-124.

Hine, C. M. (2000). *Virtual ethnography*. London, UK: Sage.

Holder, B. (2007). An investigation of hope, academics, environment, and motivation as predictors of persistence in higher education online programs. *The Internet and Higher Education, 10*(4), 245-260.

Ivankova, N., & Stick, S. (2007). Students' persistence in a distributed doctoral program in educational leadership in higher education: A mixed methods study. *Research in Higher Education, 48*(1), 93-135. doi: 10.1007/s11162-006-9025-4

Lovitts, B., & Nelson, C. (2000). The hidden crisis in graduate education: Attrition from Ph.D. programs. *Academe, 86*(6), 44-51.

Lovitts, B. E. (2001). *Leaving the ivory tower: The causes and consequences of departure from doctoral study*. Lanham, UK: Rowman & Littlefield.

Lovitts, B. (2005). Being a good course-taker is not enough: A theoretical perspective on the transition to independent research. *Studies in Higher Education, 30*(2), 137-154.

Lovitts, B. (2008). The transition to independent research: Who makes it, who doesn't, and why. *The Journal of Higher Education, 79*(3), 296-325.

National Center for Education Statistics. (2000). *Percentage distribution of doctoral degree students according to selected student, enrollment, and employment characteristics, by type of degree: 1999–2000*. Retrieved from http://nces.ed.gov/das/library/tables_listings/show_nedrc.asp?rt=p&tableID=210

National Research Council. (1996). *The path to the Ph.D.: Measuring graduate attrition in the sciences and humanities*. Washington, DC: National Academy Press.

Rovai, A. (2002). Development of an instrument to measure classroom community. *The Internet and Higher Education, 5*(3), 197-211.

Smallwood, S. (2004, January 16). *Doctor dropout*. The Chronicle of Higher Education. Retrieved from http://chronicle.com/article/Doctor-Dropout/33786/

Terrell, S. (2002). The effect of learning style on doctoral course completion in a Web-based learning environment. *The Internet and Higher Education, 5*(4), 345-352.

Terrell, S. (2005a). A longitudinal investigation of the effect of information perception and focus on attrition in online learning environments. *The Internet and Higher Education, 8*(3), 213-219.

Terrell, S. (2005b). Supporting different learning styles in an online learning environment: Does it really matter in the long run? *Online Journal of Distance Education Administration*, *8*(2). Retrieved from http://www.westga.edu/~distance/ojdla/summer82/terrell82.pdf

Terrell, S., Snyder, M., & Dringus, L. (2009). The development, validation, and application of the Doctoral Student Connectedness Scale. *Internet and Higher Education, 12*(2), 112-116.

Tinto, V. (1997). Enhancing learning via community. *The NEA Higher Education Journal, 13*(1), 53-59.

U.S. Department of Education, Office of Planning, Evaluation and Policy Development (2009). *Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies.* Retrieved from http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf

van Ours, J. C., & Ridder, G. (2003). Fast track or failure: A study of the graduation and dropout rates of Ph.D. students in economics. *Economics of Education Review, 22*(2), 157-166.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge, UK: Cambridge University Press.

Appendix

Survey Instrument

Dear Doctoral Student:

Our records indicate that you are currently working on your dissertation.

In our program, we are committed to establishing the best practices and policies we can in order to help our students in their quest for the Ph.D. Given that, we are currently conducting research investigating how students communicate with each other, and with faculty members, while working on their dissertations.

In order to do that, we need input from you. I have included a link to a survey that will allow us to collect your valuable insight; please take 20 to 25 minutes and give us as much information as possible – only by getting your input on the dissertation process can we strive make it better. As always, any information you provide is completely confidential; no personal identifying information is asked for in the survey.

Gender

F	6	35%
M	11	65%

How many terms have you registered for dissertation credit?

1-2	3	17.65%
3-4	4	23.53%
5-6	6	35.29%
7-8	1	5.88%
9-10	0	0.00%
11 or more	3	17.65%
Total	17	100.0%

Have you completed a formal stage (e.g., idea paper or proposal)?

1. No formal stage completed	64.7%	11
2. Idea Paper	5.8%	1
3. Proposal	23.5%	4
4. Dissertation Report	5.8%	1
	Total	17

1. Why did you become a doctoral student? Has it been what you expected?

2. What have you found to be most rewarding?

3. What do you find most frustrating?

4. What do you think about the university's communication tools (e.g., e-mail, dissertation forum, Dissertation Tracking System)? What would you change, remove or add to make these tools more functional?

5. Do you think students gain anything from staying in contact with each other while working on their dissertations? How so or how not?

6. How often do you communicate with your peers? Is this initiated by you or by them?

7. Many students find themselves as part of a "group" while in coursework and this follows them through the coursework; does this apply to you? Do you, or others, benefit from it?

8. If you really needed assistance, do you think you could ask other students in the program for help or guidance? Do you feel they would be willing to help if they could?

9. If someone asked you to react to "student to student connectedness" during the dissertation process, what would you say?

10. How open are the faculty to discussing ideas for dissertations?

11. Even in cases where faculty members may not have accepted your work or asked for numerous revisions, do you feel like you've received timely, valuable feedback?

12. How easy is it to communicate with faculty members before (and after, if applicable) a committee is formed?

13. Many students need to feel a strong bond or sense of community, support and trust between the faculty and themselves; do you think that's possible in the program?

14. If someone asked you to react to "faculty to student connectedness" during the dissertation process, what would you say?

15. Do you have any additional input for the faculty and administration regarding the dissertation process?

Author Note

Steven R. Terrell, Ph.D. is a professor in the Graduate School of Computer and Information Sciences at Nova Southeastern University. His research interests include attrition, motivation and achievement in non-traditional programs. Dr. Terrell serves on the editorial boards of *The Qualitative Report*, *The Internet in Higher Education* and the *Journal of Research on Technology in Education*. His text, *Statistics Translated: A Step-By-Step Guide to Analyzing and Interpreting Data,* was published in May, 2012. Correspondence regarding this article can be addressed to Steve R. Terrell at E-mail: terrell@nova.edu

Martha (Marti) Snyder, Ph.D. is an associate professor in the Graduate School of Computer and Information Sciences (GSCIS) at Nova Southeastern University (NSU).Coming from a social constructivism worldview; Snyder is interested in instructional design theories and models that can be used to support the design and development of instruction in technology-enhanced and virtual learning spaces. Educating in digital environments involves making the right connections between technology and people. The focus on instructional theory will help provide sound guidance for practitioners to design for technology's instructional roles in various information and instructional systems. Correspondence regarding this article can also be addressed to Martha (Marti) Snyder at E-mail: smithmt@nova.edu

Laurie P. Dringus, Ph.D. is a professor in the Graduate School of Computer and Information Sciences at Nova Southeastern University. Her research interests include human-computer interaction, information design, and online learning environments. She has published widely several articles and presentations related to the research, development, and evaluation of online learning environments. Since 1998, Laurie has served as Editor-in-Chief of *The Internet and Higher Education*, a refereed international journal published by Elsevier (http://www.elsevier.com/locate/iheduc. Correspondence regarding this article can also be addressed to Laurie P. Dringus at E-mail: laurie@nova.edu

Elizabeth Maddrey, Ph.D. is an adjunct professor of programming at Kaplan University Online. Her research interests include women in computer science and programming language pedagogy. Correspondence regarding this article can also be addressed to Elizabeth Maddrey at E-mail: elizabeth_maddrey@gmail.com

Article Citation

Terrell, S. R., Snyder, M. M., Dringus, L. P., & Maddrey, E. (2012). A grounded theory of connectivity and persistence in a limited residency doctoral program. *The Qualitative Report*, *17*(Art. 62), 1-14. Retrieved from http://www.nova.edu/ssss/QR/QR17/terrell.pdf