

Best Practices in Doctoral Retention: Mentoring

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Abstract: The aim of this critical literature review is to outline best practices in doctoral retention and the successful approach of one university to improve graduation success by providing effective mentorship for faculty and students alike. The focus of this literature review is on distance learning relationships between faculty and doctoral students, regarding retention, persistence, and mentoring models. Key phrases and words used in the search and focusing on mentoring resulted in over 20,000 sources. The search was narrowed to include only doctoral study and mentoring. Research questions of interest were: Why do high attrition rates exist for doctoral students? What are the barriers to retention? What are the benefits of doctoral mentoring? What programs do institutions have in place to reduce attrition? The researchers found a key factor influencing doctoral student retention and success is effective faculty mentorship. In particular, the design of a mentoring and faculty training program to increase retention and provide for success after graduation is important. This research represents a key area of interest in the retention literature, as institutions continue to search for ways to better support students during their doctoral programs and post-graduation.

Keywords: Doctoral mentoring, retention, attrition, doctoral programs, doctoral graduation

Introduction

Retention, graduation, and persistence in higher education continue to be topics of interest within academia (Linden, Ohlin, & Brodin, 2013). In fact, 40 to 60% of all doctoral students do not persist to graduation (Cochran, Campbell, Baker, & Leeds, 2014, p. 29). Of the students who do persist in a doctoral program, 41% complete their degree program within 7 years, while 57% take up to 10 years to complete their degree (Ampaw & Jaeger, 2011, p. 640). According to the Council of Graduate Schools (as cited in Ampaw & Jaeger, 2011), nationwide databases are not maintained on attrition rates of doctoral students; records are only kept for those who graduate. Furthermore, retention of students in distance learning programs continues to be a concern for institutions, even those with numerous retention strategies already in place (Leeds, Campbell, Baker, Ali, Brawley, & Crisp, 2013).

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The purpose of this comprehensive literature review is to outline best practices in doctoral mentoring that can be utilized in mentoring programs across higher education institutions. A literature review requires a critical analysis of the literature in which the research is examined for validity and relevance (Kowalczyk & Truluck, 2013). The analysis also ensures accurate conclusions can be used to inform professional practice (Kowalczyk & Truluck, 2013).

This research represents a key area of interest in the retention literature, as institutions continue to search for ways to better support students during their doctoral programs and post-graduation. Key phrases and words used in the search and focusing on mentoring resulted in over 20,000 sources. The search was narrowed to include only doctoral study and mentoring. Research questions of interest were: Why do high attrition rates exist for doctoral students? What are the barriers to retention? What are the benefits of doctoral mentoring? What programs do institutions have in place to reduce attrition? Journals with specific focus on doctoral retention and mentoring included the *International Journal of Doctoral Studies*, *Journal of Higher Education*, *Research in Higher Education*, and *Innovative Higher Education*.

One of the root causes of lack of persistence among doctoral students is an absence of effective faculty mentoring in institutions of higher education (The 7th International Conference, 2012). Evidence has shown a link between faculty retention and student achievement (Linden et al., 2013). Linden et al. (2013) discovered that when faculty members are not trained to mentor and coach doctoral students, they revert to the role of supervision, focusing on tasks and roles rather than the personal learning of the student. The focus of this literature review is on distance learning relationships between faculty and doctoral students, regarding retention, persistence, and mentoring models.

Background

Attrition rates for doctoral students have been reported to be as high as 50% (Ali & Kohun, 2006; Girves & Wemmerus, 1998; Holmes, Robinson, & Seay, 2010; Pyhalto, Toom, Stubb, & Lonka, 2012; West, Gokalp, Pena, Fischer, & Gupton, 2011). Institutions are focusing on improving attrition and retention rates by offering financial support, professional development, and mentoring programs (Holley & Caldwell, 2012). A recurring theme in the literature is doctoral students feel a sense of isolation, especially in distance learning programs (Ali & Kohun, 2006; Holmes et al., 2010; Pyhalto et al., 2012). Reported reasons for attrition include personal issues, the nature of the doctoral program, financial considerations, emotional stress, and family obligations (Gregoric & Wilson, 2012; Hadijoannou, Shelton, Fu, & Dhanarattigannon, 2007; Holmes et al., 2010; Pyhalto et al., 2012; Stevens, Emil, & Yamashita, 2010; Thien & Beach, 2010; West et al., 2011). Students are often not prepared for the step from student to independent scholar, which is necessary for doctoral success (Lovitts, 2009).

The most important relationship for a doctoral student is with an advisor, faculty, or chairperson (Barnes & Austin, 2009; Holley & Caldwell, 2012; Ku, Lahman, Yeh, & Cheng, 2008). However, an advisor, faculty, or chairperson who is a good instructor may not be a good mentor (Mullen, 2007). The relationship between the student and advisor or chairperson may be problematic, resulting in the student turning to another faculty member or student for support, and disrupting the mentoring process (Barnes & Austin, 2009; Crisp & Cruz, 2009; Grant-Vallone & Ensher, 2000; Hadijoannou et al., 2007; Holmes et al., 2010; Mullen, 2011; Sugimoto, 2012; West et al., 2011). Mentors and students must have mutual respect in addition to similar

goals and interests (Mullen, 2007). Mullen (2007) surmised that structural and institutional deficiencies could contribute to the failure of traditional doctoral mentor programs involving exclusive faculty and student interactions. Girves and Wemmerus (1988) suggested there is little information presented on the aspects associated with graduate student retention, degree progress, or those motives contributing to some students succeeding in graduate school while others drop out.

Barriers to Retention

Unwavering dedication to doctoral completion is a necessity for every doctoral candidate (Hadijoannou et al., 2007). Attrition refers to doctoral students dropping out of the program prior to finishing their degrees (Ali & Kohun, 2006). Research indicated that doctoral student attrition is well documented, but there is little information on what organizational leaders at institutions of higher education are doing to address the issue (Ali & Kohun, 2006). Factors including motivation and self-efficacy were identified as problems related to doctoral student success along with feelings of isolation, significant time on task requirements, and the nature and design of the doctoral program (Ali & Kohun, 2006; Pyhalto et al., 2012). Although there is research on how to attract doctoral students, there has been no research on how to retain these candidates once acquired (Hadijoannou et al., 2007).

Confusion on Program Requirements

Doctoral students believe they are isolated because of confusion about the program (Ali & Kohun, 2006). Simple confusion can manifest into feeling overwhelmed, resulting in students falling behind on goal progress and benchmarks. Pyhalto et al. (2012) surveyed doctoral students to explore problematic factors contributing to attrition. Many of the students attributed general doctoral work requirements and skill sets as a problem (Pyhalto et al., 2012). Typical required skill sets included maintaining motivation, self-efficacy beliefs, and time management (Pyhalto et al., 2012).

Students reported that upon entering a doctoral program, the materials are confusing and do not provide adequate information about finishing the degree (Ali & Kohun, 2006). The doctoral program is unlike any program students have experienced, and requires more intellectual challenges, psychological demands, and independent research (Ali & Kohun, 2006; Hadijoannou et al., 2007). This has not changed over the years. The first stage of a doctoral program is coursework, in which students feel comfortable and knowledgeable (West et al., 2011) based on their experience in bachelors' and masters' degree programs. The second stage, which includes the self-directed dissertation development and research phases, is unfamiliar territory for most doctoral students (West et al., 2011). It is at this stage in the process that students are expected to become independent scholars.

Student confusion about the doctoral process or requirements can cause communication issues. Communication breakdowns can occur among and between students and faculty alike (Ali & Kohun, 2006). In the dissertation phase, students often work alone with only occasional interaction with their advisor or faculty member, and many schools do not promote interaction among students (Ali & Kohun, 2006). This isolation can lead to self-doubt about student progress and the ability to finish the dissertation (Ali & Kohun, 2006). Students may find themselves distressed during a doctoral program, which can cause them to withdraw from the

academic community (Pyhalto et al., 2012). If the faculty member leaves the program, a positive faculty and student relationship can be compromised. In this case, the student is left without an advisor and may experience feelings of abandonment (Ford & Vaughn, 2011).

Time Requirements

Doctoral students have reported time management is important to their success (Martinez, Ordu, Della Sala, & McFarlane, 2013; McAlpine, Jazvac-Martek, & Hopwood, 2009). Martinez et al. (2013) found that four out of five doctoral students identified time management as the greatest challenge in their doctoral program. Students indicated their priorities were determined and managed on a day-to-day basis, not allowing for planned time management (Martinez et al., 2013; McAlpine et al., 2009). Transition from being a new doctor to integrating oneself back into the workforce also requires significant time and planning (West et al, 2011). Although many students do not leave the workforce, adjustments after graduation are still needed.

West et al. (2011) research indicated that of the participants interviewed, 60% found time management and balancing life obligations challenging for doctoral students. These students experienced obstacles, including working full time, caring for a family member, childcare demands, and financial strains. Ford and Vaughn (2011) indicated students face family conflicts because of the hours needed to complete the doctoral program. Doctoral experience has left the authors of this literature review with the belief that the successful doctoral graduate should recognize the delicate balance between personal and professional responsibilities, and the demands of completing an education at the highest level of scholarship.

Nature and Design of Doctoral Program

A student's interest in a doctoral program can decrease as the time lengthens from the onset of the program to graduation, causing disillusionment in academic studies (Kaplan, 2012). In some universities, disillusion symptoms are addressed through a more rigorous program designed to offer structure and guidance throughout the students' enrollment, with preparation for post-graduation life (Kaplan, 2012). Nurmi and Salmela-Aro (2002) suggested that by developing a doctoral program focused on attainable goals, with regular monitoring and mid-course adjustments as appropriate, students realize greater progress, while depressive symptoms decrease. Smith (2012) also contributed that the use of a journal to log frustrations and challenges is an important tool that can be used to decrease depressive symptoms and keep students motivated and on schedule.

By establishing the academic career as a journey, and realizing that over time the student will continue to develop individually and professionally, many of the symptoms related to dissatisfaction disappear (Heinrich, 2005). Post-graduate, co-authorship also contributes to the transition from student to graduate professional (Pinheiro, Melkers, & Youtie, 2014). According to Thien and Beach (2010), to successfully transition from student to professional, a university-developed mentoring program that pairs professors with students throughout the doctoral process is key to success. Professors can use methods of confidence building, and engage graduates with co-publishing activities to assist with the transition (Thien & Beach, 2010).

Persistence

The transition from doctoral student to post-doctoral scholar and professional can be challenging. While the literature supports the idea of institutions focusing on early course efforts to ensure doctoral student retention (Crisp & Cruz, 2009), the need for more emphasis on those students with all but dissertation (ABD) status is crucial. The challenges of research activities and ultimately graduation can fall heavily on a student who is unprepared for the necessities of objective achievement (Hadijoannou et al., 2007). This period in one's life may seem overwhelming, although it does not have to be with the assistance of a mentor and university program that shepherds students through acquisition of basic organizational skills, knowledge, and experience.

Throughout the doctoral process, it is possible to obtain organizational skills, knowledge, and experience through networking, sharing experiences, creating a defined mentoring path, and co-authoring publication and research (Holley & Caldwell, 2012). Below is a review of strategies regarding self-development, which can aid the transition from doctoral student to post-doctoral scholar and working professional.

Mentoring

Educators have a key role to assist in the development and preparation for the transition from student to doctoral professional after graduation (Heinrich, 2005). The transition post-degree was easier for those students who benefited from an enhanced mentoring experience (Heinrich, 2005). The ability of the mentor to build a mentee-focused learning community incorporating both skill development and motivating factors is essential.

Student demographics also play a role in mentoring. Holley and Caldwell (2012) indicated that older students do not feel they need mentoring. Minority students struggle because of the shortage of minority faculty who can serve as an advisor (Holley & Caldwell, 2012). Rose (2005) indicated that female doctoral students seek mentoring relationships with faculty more than male doctoral students.

A doctoral student participating in research can improve their research skills through co-authorship and presentation opportunities, building knowledge production along the way (Pinheiro et al., 2014). Mentoring can assist with self-development as indicated by career support, job satisfaction, salary, successful collaboration with peers, use of different methods of speaking and writing in discipline-specific ways, and embracing post-graduate publication opportunities (Pinheiro et al., 2014).

Mentoring Doctoral Students toward Publication

Preparing doctoral students for publication includes more than merely providing advice on approaches and resolutions for writing research (Thien & Beach, 2010). It is important the student and professor share a common interest of topic so that both mutually engage in the collaboration work (Thien & Beach, 2010). Students find this relationship highly beneficial in improving research and writing skills (Thien & Beach, 2010). Professor and student can collaborate by co-publishing research (Heinrich, 2005; Pinheiro et al., 2014; Thien & Beach, 2010). While preparing journal articles, Professor Beach would not only provide revisions to

Thien, but also would often share his perceptions on the biases and detail impressions of the potential reviewers and editors involving the acceptance into journal publication (Thien & Beach, 2010). This assessment provided three summaries from various authors on different topics of methods, in which self-development through the doctoral process can encourage a smooth transition from student to post-doctoral scholar and working professional.

Heinrich (2005) shared data that followed 16 post-doctoral students for five years after graduation. Heinrich explained that self-development through networking, rekindling relationships, defining a new path, and finding one's identity can provide a smooth transition. Pinheiro et al. (2014) examined the role of student publication and co-authorship and how this activity can enhance future career productivity. Thien and Beach (2010) shared their student and professor mentoring relationship by describing an enhanced student authorship leading to future career and research publication opportunities. There are numerous strategies for evolving from student to professional that can be adapted through enhanced self-development knowledge (Thien & Beach, 2010).

Benefits of Mentoring

Mentoring is an ongoing helpful relationship (Mullen, 2007; Peterson, 1999; Webb, Wangmo, Ewen, Teaster, & Hatch, 2009; West, et al., 2011). Mentoring focuses on growth and accomplishment of the individual and includes a broad means of support and role modeling (Crisp & Cruz, 2009). Grant-Vallone and Ensher (2000) indicated that traditional mentoring led to graduate student success and is an important factor in graduate education. Doctoral student success has been attributed to a strong mentoring program (Grant-Vallone & Ensher, 2000; Holley & Caldwell, 2012). Research indicated that mentoring programs could promote interaction and socialization between the students and the educational institution and possibly reduce attrition rates (Ali & Kohun, 2006; Barnes & Austin, 2009; Holley & Caldwell, 2012). Webb et al. (2009) surmised that mentoring has many benefits, including helping students with critical thinking and assisting in making personal and academic decisions. There is evidence that there was a positive correlation between the students' career certainty and their mentorship relationship, including less conflict, and a greater commitment to their profession (Lunsford, 2011; Mullen, 2011; Nimer, 2009; Peterson, 1999).

Peer Mentoring

There is a lack of literature on the effectiveness of peer mentoring with doctoral students (Grant-Vallone & Ensher, 2000; Hadijoannou et al., 2007). Peer-mentoring programs can be formal, where the institution assigns an experienced doctoral student as a mentor, or informal, in which students come together because of interests or friendship (Holley & Caldwell, 2012). Gregoric and Wilson (2012) followed two doctoral students who developed a mentoring relationship formed by comparable research topics. The students agreed the relationship helped them cope with the challenges of the doctoral program. Hadijoannou et al. (2007) wrote about doctoral students who formed their own peer support group to discuss requirements, confusion, and success strategies. Student-led groups play an important role in enhancing doctorate scholars. The peer-mentoring experience offered instructional, writing, and emotional support (Hadijoannou et al., 2007). However, Grant-Vallone and Enser (2000) reported that although peer mentoring provided support for doctoral studies, it did not reduce stress levels.

Mullen (2011) suggested that mentoring at the group level heightens students' motivation to learn and succeed. Pilbeam, Lloyd-Jones, and Denyer (2013) concluded there is a value in student networking that provides an environment conducive to learning, team building, social interactions, and ultimately doctoral success. Peer mentoring also promotes shared learning (Holley & Caldwell, 2012).

Faculty Mentoring

The terms advisor and mentor are not always interchangeable. Barnes and Austin (2009) reported that an advisor acts in an official capacity, but a mentor has deeper relationships. While an advisor identifies the requirements and goals for students, a mentor serves as a coach throughout the multidimensional process of doctoral education success (Mullen, 2007). A mentor can be considered a doctoral coach or fulfill a coaching role with the mentee. However, at times, faculty and students do not make significant connections, or the parties do not understand the importance of their relationship role with each other (Mullen, 2007). There should be careful consideration when choosing faculty to serve as an advisor or mentor, with role objectives sensibly matched to faculty capacity (Holley & Caldwell, 2012).

Mentoring faculty need to teach beyond the classroom (Mullen, 2007). West et al. (2011) research indicated that students did not feel there was good communication with their advisors. The students believed that if they did not take the initiative to call their advisor, they would not hear from them at all (West et al., 2011). Some universities use a dissertation model that assembles students into smaller dissertation learning units based on specific subject matter, while other university programs attribute much of the dissertation learning and success to well-facilitated dissertation learning communities that encompass a broader academic scale. Communication and honest feedback are two important responsibilities of a mentor (Rose, 2005). The mentor needs to recognize when a student has delayed his or her work and provide support to motivate the student to continue with their research (Barnes & Austin, 2009). Mentors also need to encourage students to be active in their learning community, especially by keeping an open line of communication between the advisor and student (Ford & Vaughn, 2011). An important factor in successful dissertation completion is the relationship between the student and advisor (Hadjiioannou et al., 2007; West et al., 2011).

In a mixed-method study of psychosocial and developmental theory, Lunsford (2011) gathered data from participants who took part in a formal faculty-mentoring program. Results indicated some students did not feel appropriately mentored because of a change in major, lack of connection with the mentor, or having a mentor outside their program of study (Lunsford, 2011). However, the results also indicated there was a positive correlation between the students' career certainty and their mentorship relationship (Lunsford, 2011).

Qualities of a successful mentor included vision, drive, energy, and a commitment to the student and program (Mullen, 2007). Other roles included a source of information, advocate, role model, and socializer (Barnes & Austin, 2009). Mullen (2007) indicated that potential successful mentors may not engage as a doctoral mentor because there is little institutional support. West et al. (2011) offered three types of support a faculty advisor can provide including coaching, psychosocial guidance, and networking assistance. Ford and Vaughn (2011) reported that trust is important in the mentor and student relationship.

Cohorts

Not only is the role of the mentor important, but so too is the student's place of relationship within a larger learning community or cohort. Research showed that students who start the doctoral program as a group stayed together as a group and had a better graduation success rate (Ali & Kohun, 2008; Holmes et al., 2010; Nimer, 2009). The cohort model encouraged interaction with doctoral students, which led to providing assistance, exchanging information, sharing feedback, challenging each other, and promoting leadership skills (Holmes et al., 2011). West et al. (2011) found that students in a cohort are more successful than non-cohort students.

Dissertation cohorts can function formally or informally (Mullen, 2007). The cohort model encouraged peer-to-peer learning with the benefit of the faculty's expertise (Mullen, 2007). The cohort model is not widely used because of a lack of institutional support (Mullen, 2007). Virtual connections can help faculty and their cohort be connected outside the classroom (Ford & Vaughn, 2011). Ford and Vaughn (2011) reported that cohorts could have a negative effect on the doctoral student by forcing group conformity.

Mentoring Models

Mullen (2007) reported that the traditional doctoral mentoring model of faculty and student exclusive interaction has not changed and questioned its quality in today's doctoral programs. There are challenges to designing a doctoral mentoring program (Holley & Caldwell, 2012; Holmes et al., 2010). Crisp and Cruz (2009) argued that despite numerous research studies on mentoring, there lacks a developed mentoring process for doctoral students. Ali and Kohun (2006) also indicated that isolation has not been addressed in the design of doctoral programs.

In a qualitative study, Ku et al. (2008) explored a mentoring group who mentored international doctoral students for academia. Mentoring international students is challenging because students have different learning styles and language barriers. International professors in the United States are effective ambassadors and can facilitate research with overseas organizations. As evidenced, research indicated that mentoring these international students increased student success (Ku et al., 2008). Ku et al. concluded there is a need for academic support mechanisms for graduate students, specifically international students.

Mentoring models or best practices should include co-mentoring, cohort learning, tele-mentoring, and e-mentoring (Mullen, 2007). The authors of this literature review experienced doctoral success by participating in a learning community cohort under the leadership of a mentor who built a sense of community among the group. In the learning community, students can benefit from an environment that provides resources and instruction, supports learning, engages students and relationship building between members of the learning community, and affords students the opportunity to build and share their experiences, lessons learned, and wisdom with one another.

Institution rewards can encourage faculty mentors to promote good work habits and create meaningful relationships with doctoral students (Barnes & Austin, 2009; Mullen, 2007). Annual recognition of successful mentors will help faculty feel appreciated (Mullen, 2007).

However, the most significant reward is often observed in the process to assist doctoral students as they grow, mature, and transition into scholars and ultimately cross the graduation platform. A successful doctoral process is often characterized with incremental evidence of student achievement by those who can demonstrate learning and maturity manifest in sharing their skills with others throughout the journey.

Scholars-in-the-Making Training Model

In order for a doctoral program to successfully transition to a model of intensive mentoring and cohort interactions, university leaders need to ensure the proper infrastructures are in place to provide the most successful environment (Black, 2012). Research indicated that doctoral mentoring programs in which the instructor provided additional time for students outside of the classroom environment to meet student needs, led to successful student learning (Yob & Crawford, 2012). Teleconferencing is of major importance for weekly interactions between faculty mentors and student mentees in an online environment. A commitment from the mentor to facilitate weekly group meetings and individual telephone calls to monitor success is necessary. Additionally, there should be access to dissertation editors who are familiar with the university's required writing standards, along with the doctoral committee's commitment to reduce turnaround times for reviews of drafts to assist the student in moving through the process more rapidly (Black, 2012).

Research by Ewing, Mathieson, Alexander, and Leafman (2012) indicated that a doctoral program with intense facilitation and dialogue can increase the graduation rate to 73% (p. 40). Weekly communication sessions to highlight the success and shared challenges of students should be encouraged. Students need to feel comfortable to share all aspects of their journey with peers sufficient to bridge the learning among the entire group. The mentor should encourage this type of sharing among the students. Additionally, the mentor should make certain to celebrate the accomplishments of individual group members, as well as acknowledging the success of the group based on collective achievements (Espino, Munoz, & Kiyama, 2010).

Creating a quality learning community online is difficult and requires committed instructors providing interpersonal contact, communication intimacy, and immediacy for student success (Lim, Dannels, & Watkins, 2008). Likewise, faculty tasked with leading doctoral candidates must be connected to the university's core mission, while embracing this highest level of scholarship, which can be a tenuous and difficult task considering the increasing numbers of adjunct faculty used in university doctoral programs. This challenge calls for transformational leadership on the part of program directors to motivate faculty to be the best mentors possible, and provide students with the resources, guidance, and support necessary to promote doctoral study success.

Conclusion

Educators want all doctoral students to graduate; however, those who have succeeded on this journey understand the struggles, isolation, and hard work involved. That acknowledged, not everyone graduates. Doctoral-level work is the highest form of scholarship and begins with a significant demand for charting a new personal course or life-path, which means a steep learning curve and demonstration of scholarly skills. The journey is often lonely and isolating

because, by the nature of doctoral education, it is a personal journey and the ultimate demonstration of skills, which tasks the budding scholar with an increased requirement for rigor beyond any previous level of performance experienced.

The student's experience within the doctoral journey matters to their success. Doctoral programs that provide for or allow student cohort and learning community relationships or supported networks, along with a mentor that can support a learning community experience that provides access to skill development activities and associated resources, can lead to success and ultimately doctoral graduation. Unlike traditional classroom education models, the online doctoral student is not charged with learning and demonstrating the objectives of customary subject curriculum. Instead, the student often needs to identify and learn new ways of interacting with personal, professional, and educational outcomes that demand a more holistic process of shepherding the individual education process.

A key factor influencing doctoral student retention and success is effective faculty mentorship. In particular, the design of a mentoring and faculty training program to increase retention and provide for success after graduation is important. The focus of this literature review has important implications for student success and would add to our understanding of how to help doctoral students successfully complete their doctoral programs and transition to the next stage of utilizing their degrees beyond graduation. This article will add to the literature in terms of understanding the impact that doctoral mentoring could have on student success, both during their programs and post-graduation.

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Dedication

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