

# Academic Residency: Effective Engagement And Mentorship Of Doctoral Students

Dennis (Wes) Westbrooks, National Intelligence University, USA

Nichelle Guillaume, Lourdes High School, Rochester, USA

Samantha M. Jones, Bemidji State University, USA

Kara De La Fosse, Riverland Community College, USA

## ABSTRACT

*This paper presents the results of participatory action research survey responses from doctoral students regarding strategic onboarding activities. Twelve first-year doctoral students in an inaugural doctoral program cohort responded to Likert Scale and open-ended questions during the first week of a two-week on-campus residency. Resulting student perspectives highlight the importance of faculty mentorship and cohort engagement during residency to clarify roles and responsibilities, build academic support and collaboration networks, and alleviate anxieties about doctoral program expectations. Specific recommendations for academic residency include providing increased opportunities for one-on-one conversations with faculty and administrators, and cohort socialization activities to identify peer strengths and alliances.*

**Keywords:** Strategic Onboarding; Academic Residency; Cohort Model; Online Doctoral Program

## INTRODUCTION

Academic residency, as a component of strategic onboarding, fosters an active community of learners (Radda, 2012). Holmes, Willis, & Woods, (2016) posit that strategic onboarding provides a foundation for students to matriculate successfully through an online doctoral program. Additionally, student perspectives should be considered when devising and developing an online doctoral program (Sahin & Shelley, 2008). Strategic onboarding is defined as academic socialization, cohort engagement, and outlining expectations of graduate study (Holmes et al. 2016). Academic socialization in the form of residency provides a platform for face-to-face interactions with faculty and cohort members, as well as access to technology and library resource training, equipping students with the necessary tools for the doctoral journey (Radda, 2012). For the purpose of this study the focus was on academic residency and cohort engagement.

## PURPOSE STATEMENT

The purpose of this participatory action research study was to explore inaugural doctoral student perspectives of the initial strategic onboarding process in an online program at a Midwestern university in southeastern Minnesota.

## RESEARCH QUESTIONS

The research questions guiding this inquiry include:

1. What are doctoral student perspectives on academic residency?
2. What are doctoral student perspectives on the cohort model?

## BACKGROUND

Strategic onboarding originated in business but has found its way into academia (Holmes et al. 2016). Martin, Goldwasser, & Galentino (2016) contend that academic program designers “are interested in academic productivity, especially in accelerated graduate programs” (p. 2). The onboarding process is critical in improving performance,

efficiency, engagement, and understanding (Grillo & Kim, 2015). Strategic onboarding applied to doctoral programs consist of various orientation activities including academic residency and cohort engagement.

Academic residency assists in fostering relationships with cohort members, connects students to the institution, and enhances connections with faculty (Torres & Statti, 2018). Faculty use these enhanced connections to promote collaborative scholarly engagement which further develops trust and cooperation, thus strengthening relationships (Holmes et al.2016). Additionally, Radda (2012) asserts that academic residency fosters a sense of inclusion and collaboration creating a safe-space to work toward dissertation research. Furthermore, clear communication of expectations during residency regarding roles and responsibilities of doctoral students contribute to persistence, allowing self-assessment of skills, abilities, and resources necessary to succeed (Sverdlik, Hall, McAlpine, & Hubbard, 2018).

Cohort engagement is an important contextual factor influencing doctoral student persistence (Holmes et al. 2016). An estimated 50% of social sciences, humanities, and educational doctoral students do not graduate, with those in non-traditional formats such as online programs experiencing an additional 10-15% lack of persistence (Kennedy, Terrell, Lohle & Kennedy, 2015). The average doctoral student is over the age of 30 and balancing academic and family obligations (Rockinson-Szapkiw, 2019). Berry (2017) suggests that “online doctoral students are interested in making social and academic connections” (p. 33). Increased engagement of the cohort model contributes to a support network that promotes degree completion (Radda, 2012).

## **METHODOLOGY**

Participatory action research is well suited for this study because it is a “systematic collection and analysis of data for the purpose of taking action and making change” by producing tangible knowledge (Gillis & Jackson, 2002, p. 264). Participatory action research is defined as a form of qualitative research where participants guide transformative change (MacDonald, 2012). The methodology enables participants to engage in both research activities and the phenomenon of study which empowers informed decision-making throughout all aspects of the process (MacDonald, 2012).

This participatory action research study analyzed doctoral student perspectives through an anonymous survey administered week one of a two-week academic residency. Students were given 24 hours to complete a survey that consisted of five Likert Scale rating statements and seven open-ended questions. Likert Scale statements related to the importance of five major topic areas: on-campus face-to-face residency, cohort model, online synchronous sessions, academic socialization, and technology training. An additional seven open-ended questions addressed topics of initial concerns/anxieties, administrator interaction, start-up changes, current challenges, residency relevance, university improvements to graduate-level training, and connectedness to the main campus.

### **Setting**

This study was conducted during academic residency at a doctoral degree-granting public institution with a total enrollment of nearly 8,000 students, situated within a micropolitan region of southeast Minnesota. Doctor of Education is the second of two doctorate degrees offered at the university which supports numerous undergraduate and graduate programs. Importantly for doctoral study, residency activities were hosted in the library to provide access to, and familiarity with, university research resources.

### **Sample**

Purposeful sampling was used during the first week of the two-week doctoral program residency to collect student perceptions of the experience. The entire cohort consisting of twelve doctoral students responded to the survey providing demographic data on employment, age, race/ethnicity, sex, marital status, and number of children (Table. 1). All students were practitioner-scholars employed fulltime in education, education administration, or social work. Race/ethnicity and age range composition of participants were: ten Caucasian (age range 25-54), one Native American (age range 45-54), and one African American (age range 45-54). Five of the seven females were married with children, the other two female participants, one married and one single, had no children. Similar family dynamics existed among

male cohort members. Three of the five males were married with children, two were single; one with children and one without. Rationale for the purposeful sampling was to use information rich participants and specifically gather perceptions of residency experience from the entire doctoral student body (Lochmiller & Lester, 2017).

**Table 1.** Participant demographics (N = 12)

<b>Employment</b>	<b>N</b>	<b>%</b>	<b>Profession</b>	<b>N</b>	<b>%</b>
Fulltime	12	100	Education (teaching)	9	75
SEX			Education (administration)	2	17
Female	7	58	Social Work	1	8
Male	5	42			
<b>Age Class</b>			<b>Race/ Ethnicity</b>		
25-34	3	25	Caucasian	10	83
35-44	5	42	African American	1	8
45-54	4	33	Native American	1	8
<b>Marital Status</b>			<b>Children</b>		
Married	9	75	0	3	25
Single	3	25	1-3	8	67
			>3	1	8

## LITERATURE REVIEW

Academic residency provides an environment for academic socialization which is essential to online doctoral student success (Radda, 2012). Two invaluable components of academic residency are faculty mentorship and peer relationships (Gardner & Barnes, 2007). Faculty mentorship during residency is intentional, and “deliberately promotes doctoral students’ development as a scholar in small group settings, acting as a guide, role model, teacher, and sponsor to the student” (Anderson, Cutright, & Anderson, 2013, p. 198). This is further supported by Savage, Karp, & Logue (2004) who stated “the evidence and critical need for faculty mentoring has longstanding support in higher education research” (p. 23). Doctoral students report that academic residency strengthens the connection with peers, creating a sense of community (Berry, 2017). The academic rigor of doctoral study underscores the importance of establishing faculty and peer relationships early in the program that support a distributed group of learners during the coursework and dissertation processes (Terrell, Snyder, Dringus, & Maddrey, 2012).

The cohort model is widely used to promote strong community among doctoral students, enhance the learning environment, and reduce attrition rates (Lowery, Geesa, & McConnell, 2018). Holmes et al. (2016) contend that cohort benefits include “creating strong relationships and bonds, peer-reviewing assignments, offering support and encouragement to stay the course, networking, and developing long lasting friendships” creating unassailable relationships amongst peers (p. 4). Cohort collaboration enhances the learning environment through collective generation of ideas, collegial support, and increased access to the professional knowledge of colleagues and peers (Page, Etmanski, & Agger-Gupta, 2017). Furthermore, Santicola (2016) posited cohort models minimize doctoral student attrition attributed to feelings of isolation, thus, providing support throughout the program.

## THEORETICAL FRAMEWORK

“The purpose of a theoretical framework is to demonstrate the interaction and relationship among a set of concepts, which, as a whole, describe a more complicated phenomenon” (Heale & Noble, 2019, p. 36). Three learning theories comprise the theoretical framework of this study: Situated Learning Theory, Social Cognitive Theory, and Constructivist Learning Theory.

### Situated Learning Theory

Lave and Wegner (1991) argue that learning is fundamentally a social process by which new knowledge is acquired through interaction within a learning community, not just the transmission of information. Learners participate in the sociocultural practices of a community under the mentorship of established practitioners. Knowledge is co-constructed as new practitioners move toward full participation in the community (Lave & Wegner, 1991). Transparency of

community organization, and its associated content and tangible outcomes, are important to sustaining learner motivation and participation. Furthermore, engagement with the discourse of practice is essential to learner formation of identity as a member within the community of practice (Lave & Wenger, 2012). Residency provides a situated learning community for the academic socialization of doctoral students.

**Social Cognitive Theory**

Bandura & Cervone (1986) asserts that learning occurs in a social context of dynamic and reciprocal interaction among person, environment, and behavior. Further, social cognitive theory posits that learning transpires in social contexts through observing and modeling the behavior of others to shape future learning (Devi, Khandelwal, & Das, 2017). Learning occurs through evaluation of one's conduct in relation to behavioral standards and environmental context (Bandura, 1991). Learning vicariously through observation of others. Social cognitive theory thus offers a basis for examining various levels of social phenomena including intrapersonal development, interpersonal transactions, and interactive functioning of social systems (Bandura & Cervone, 1986).

**Constructivist Learning Theory**

Bruner's Constructivist Learning Theory is based around the idea that interactions with others assist in constructing new knowledge in an active way (Bruner, 1996). Current knowledge and past experiences facilitate discovery of new facts and connections (Bruner, 1979). Structure of the curriculum is an important part of learning (Bruner, 1960). Bruner (1960) explains that when the curriculum is developed it should continually "revisit these basic ideas repeatedly, building upon them until the student has grasped the full formal apparatus that goes with them" (p. 13). Revisiting past experiences and sharing knowledge create the base of a constructivist learning environment. Intentional reflection during residency demonstrates the process and value of making meaning of experience.

**FINDINGS**

Responses on the five Likert Scale survey questions are represented in Table 2, and Figures 1 and 2. Table 2 shows the mean and standard deviation of the responses, and Figures 1 and 2 present the student responses by percentage. Question numbers 1, 3, and 5 pertain to academic residency and question numbers 2 and 4 relate to the cohort model. Table 2 lists the questions in order by importance. Results showed a unanimous conclusion on the importance of the on-campus face-to-face residency while the mean of the cohort model was slightly smaller but still represented the importance. The mean of the five questions regarding topics of face-to-face residency, synchronous sessions, academic socialization, cohort model, and technology training all ranked between very important and important.

**Table 2.** Likert Scale question responses

Questions	N	Mean	Std. Deviation
How important is the on-campus, face-to-face residency to your doctoral learning?	12	5.00	0
How important was starting the doctoral program online with synchronous sessions with the course instructors?	12	4.83	.38926
How important was academic socialization in your on-boarding process?	12	4.67	.49238
How important is the cohort model to your doctoral learning?	12	4.67	.65135
How important is technology training in preparing you for a successful doctoral experience?	12	4.58	.90034

Note: 5=Very Important; 4= Important; 3=Somewhat Important; 2=Less Important; 1=Not Important

The academic residency survey consisted of seven open-ended questions (questions 6-12). This study was delimited to survey questions 6, 7, 10, 11, and 12, which relate to academic residency and the cohort model.

**Emergent Theme 1: Faculty and Administrator Mentorship During Academic Residency**

Faculty and administrator mentorship emerged as a recurrent theme from survey responses. Faculty included course instructors, research librarians, and the educational technology team. Administrators were comprised of the university president and provost, as well as vice presidents, deans and department chairs as applicable. One hundred percent of respondents ranked face-to-face residency as very important. This was further supported by open-ended survey responses. A majority of participants noted that faculty and administrator mentorship helped alleviate concerns and anxieties, and fostered feelings of connectedness to campus. Likert Scale responses indicated that a majority of the cohort deemed technology and library research training as an important aspect of academic residency, with one student dissenting.

The survey questions associated with the following theme were:

Likert Scale Question #1: How important is the on-campus, face-to-face residency to your doctoral learning?

Likert Scale Question #3: How important was academic socialization in your onboarding process?

Likert Scale Question #5: How important is technology training in preparing you for a successful doctoral experience?

**Figure 1.** Percentages of student responses from questions 1, 3, and 5 of the Likert Scale.



Open-ended Survey Question #6: What activities addressed your initial concerns/anxieties about starting a doctoral program?

Open-ended Survey Question #7: What takeaways do you have from interaction with University administrators?

Open-ended Survey Question #10: What recommendations do you have for making academic residency more relevant for you?

Open-ended Survey Question #11: What can the university do to improve your graduate-level training?

Open-ended Survey Question #12: Describe how connected you feel to the main campus.

Survey responses illustrating faculty mentorship during residency:

1. “They [faculty] are invested in our success and our success is a reflection on the university. They are here to support us.”
2. “Watching the [faculty] dissertation presentations, library research techniques, networking with administrators on campus...”
3. “The passion and excitement of outreach and support was motivating and inspiring. These administrators reinforced the value of this process and represent what we can achieve from this experience.”
4. “The administrators were very supportive of the program and gracious in offering time inside the classroom and out to assist in the student journey.”

**Emergent Theme 2: Cohort Engagement**

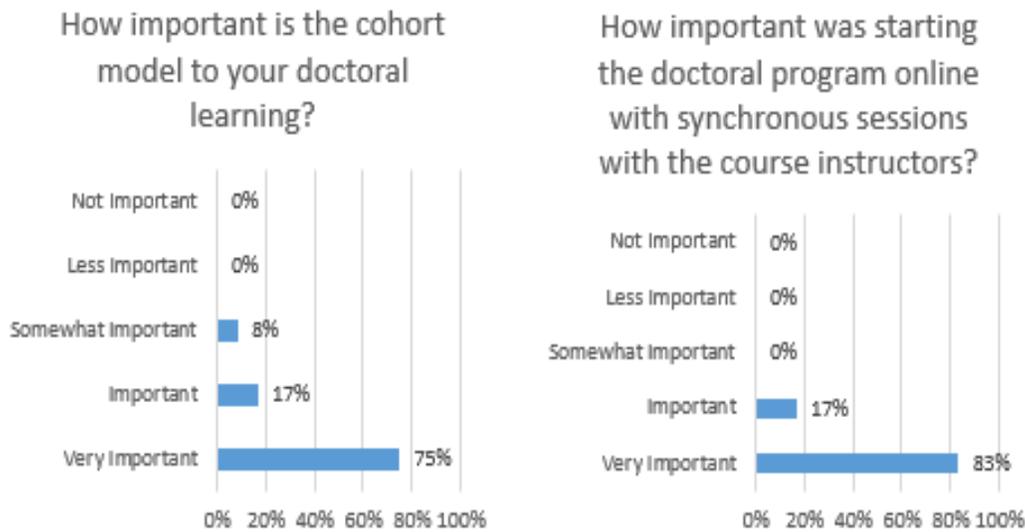
Survey responses regarding cohort engagement exemplify the importance of synchronous online meetings with course instructors and peers as well as the cohort model. Eighty three percent of respondents ranked online synchronous sessions with course instructors and peers as very important and 75% percent ranked the cohort model as very important. Cohort members with a prior affiliation to the university played an important role in fostering feelings of connection to the main campus among new students. Within the open-ended survey portion, several students suggested the cohort model provides the moral support to persist.

The survey questions associated with the following theme were:

Likert Scale Question #2: How important was starting the doctoral program online with synchronous sessions with the course instructors?

Likert Scale Question #4: How important is the cohort model to your doctoral learning?

**Figure 2.** Percentages of student responses from questions 1 and 4 of the Likert Scale.



Open-ended Survey Question #6: What activities addressed your initial concerns/anxieties about starting a doctoral program?

Open-ended Survey Question #12: Describe how connected you feel to the main campus?

Survey responses illustrating cohort engagement:

1. “[The] synchronous online meetings with the instructional team...”
2. “The face-to-face cohort experience has by far been the best confidence booster for me.”
3. “After receiving a tour from one of our cohort members, and some exploring on my own, I feel comfortable navigating the campus.”
4. “I feel VERY connected to the professors and the other students. This is why I am still in this program. Within the first week, I had numerous times about dropping out, but this connection has helped me pull through.”

### **RECOMMENDATIONS**

Based on the findings of this participatory action research study, the following recommendations are made for strategic onboarding of future online doctoral programs:

1. Increase opportunities for one-on-one conversations with administrators and faculty outside of the classroom environment during academic residency to provide continued mentorship.
2. Increase social cohort engagement to better understand peer strengths and weaknesses. This would help students more efficiently support one another within the cohort.

### **CONCLUSION**

By understanding the ways in which online students create community and by identifying sources of support in online doctoral programs, researchers and practitioners can design programs that promote distance learners’ satisfaction, persistence, and retention. The findings of this study corroborate others in demonstrating the importance of intentional onboarding practices that build academic community. Inclusion of a cohort forming stage (residency) and use of synchronous communication foster productive social interactions that galvanize relationships students feel more comfortable drawing upon once dispersed (McInnerney & Roberts, 2004). Academic residency creates an environment which supports development of student-student and student-faculty relationships (Terrell et al. 2012). Through residency immersion “online learning communities evolve from simple cohorts when learners elevate their engagement with each other to an emotional sense of community” (Ke & Hoadley, 2009, p.498). The sense of pride in belonging to this community is vital to student persistence, particularly in online doctoral programs (Berry, 2017).

## ACKNOWLEDGEMENTS

This article was based on a presentation given by the authors at the Clute International Academic Conference Las Vegas, NV, October 14, 2019.

## AUTHOR BIOGRAPHIES

**Dr. Dennis (Wes) Westbrook** is the Director of Student Affairs at the National Intelligence University located in the Washington, DC metropolitan area and an adjunct faculty at Winona State University, MN. His writing and presentations primarily focus on intelligence studies, but he has researched and written on numerous topics relevant to Higher Education. Wes holds a BS from Hampton University, Hampton, VA, an MS from The George Washington University, Washington, DC, and a PhD from Hampton University, Hampton, VA. Email: dennis.westbrooks@winona.edu

**Nichelle Guillaume** is a math and computer science teacher at Lourdes High School in Rochester, Minnesota and a student in the Winona State University Doctor of Education program. In 2015 she received her Bachelor of Science degree in Mathematics from the University of Wisconsin - La Crosse. Continuing on, she obtained her teaching license through the Teacher Preparation Collaborative program in 2016, and by 2018, Nichelle had earned her Master of Science in Education degree. She obtained both her license and degree from Winona State University. Nichelle plans to research self-regulated learning strategies in high school students. Email: ngrage16@winona.edu

**Samantha (Sam) Jones** is an Assistant Professor in the Center for Sustainability Studies at Bemidji State University and a student in the Winona State University Doctor of Education program. She holds a BS degree in Geography from Bemidji State University, Bemidji MN, and an MS from Ohio University, Athens OH. Sam's doctoral research interests center on experiential learning and essential skills in field-based education. Email: samantha.jones@go.winona.edu

**Kara De La Fosse** is the Director of Nursing Assistant/Home Health Aide Program at Riverland Community College and a student in the Winona State University Doctor of Education program. She obtained her bachelor's degree in Early Childhood Education from Youngstown State University in 2003, an Associate degree in Nursing from Riverland Community College in 2014, and Bachelor of Science (RN) and Public Health Nursing (PHN) degrees from Winona State University in 2014. In 2016, she earned a Master of Science in Nursing (MSN) from Walden University. Kara is interested in researching what students need to be successful in Certified Nursing Assistant programs in community colleges for its direct application to her role at Riverland Community College. Email: kara.delafosse@go.winona.edu

## REFERENCES

- Anderson, B., Cutright, M., & Anderson, S. (2013). Academic involvement in doctoral education: Predictive value of faculty mentorship and intellectual community on doctoral education outcomes. *International Journal of Doctoral Studies*, 8, 195–215. <https://doi.org/10.28945/1923>
- Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes*, 50(2), 248–287. [https://doi.org/10.1016/0749-5978\(91\)90022-L](https://doi.org/10.1016/0749-5978(91)90022-L)
- Bandura, A., & Cervone, D. (1986). Differential engagement of self-reactive influences in cognitive motivation. *Organizational Behavior and Human Decision Processes*, 38(1), 92–113. [https://doi.org/10.1016/0749-5978\(86\)90028-2](https://doi.org/10.1016/0749-5978(86)90028-2)
- Berry, S. (2017). Student support networks in online doctoral programs: Exploring nested communities. *International Journal of Doctoral Studies*, 12, 033–048. <https://doi.org/10.28945/3676>
- Bruner, J. S. (1960). *The process of education*. Retrieved from <http://www.hup.harvard.edu/catalog.php?isbn=9780674710016>
- Bruner, J. S. (1979). *On knowing: Essays for the left hand*. Cambridge, MA: Harvard University Press.
- Bruner, J. S. (1996). *The culture of education*. Retrieved from <http://www.hup.harvard.edu/catalog.php?isbn=9780674179530>
- Devi, B., Khandelwal, B., & Das, M. (2017). Application of Bandura's social cognitive theory in the technology enhanced, blended learning environment. *International Journal of Applied Research*, 3(1), 721–724. Retrieved from [www.allresearchjournal.com](http://www.allresearchjournal.com)
- Gardner, S. K., & Barnes, B. J. (2007). Graduate student involvement: Socialization for the professional role. *Journal of College Student Development*, 48(4), 369–387. <https://doi.org/10.1353/csd.2007.0036>
- Gillis, & Jackson. (2002). *Research methods for nurses: Methods and interpretation*. Philadelphia: F. A. Davis Company.

- Grillo, M., & Kim, H. (2015). A Strategic Approach to Onboarding Design: Surveys, Materials, & Diverse Hires. *Cornell University, ILR School Site*. Retrieved from <http://digitalcommons.ilr.cornell.edu/student/79>
- Heale, R., & Noble, H. (2019). Integration of a theoretical framework into your research study. *Evidence-Based Nursing, 22*(2), 36–37. <https://doi.org/10.1136/ebnurs-2019-103077>
- Holmes, B., Willis, K., & Woods, E. (2016). Strategic onboarding of online doctoral students: Creating a pathway to academic persistence. *Asian Journal of Social Sciences and Management Studies, 3*(2), 136. <https://doi.org/10.20448/journal.500/2016.3.2/500.2.136.139>
- Ke, F., & Hoadley, C. (2009). Evaluating online learning communities. *Educational Technology Research and Development, 57*(4), 487–510. <https://doi.org/10.1007/s11423-009-9120-2>
- Kennedy, D. H., Terrell, S. R., Lohle, M., & Kennedy, D. H. (2015). A grounded theory of persistence in a limited-residency doctoral program. *The Qualitative Report, 20*(3), 3–9. Retrieved from <https://nsuworks.nova.edu/tqr/vol20/iss3/5>
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. New York: Cambridge University Press.
- Lave, J., & Wenger, E. (2012). Legitimate peripheral participation in communities of practice. In *Situated Learning* (pp. 89–118). <https://doi.org/10.1017/cbo9780511815355.006>
- Lochmiller, C. R., & Lester, J. N. (2017). *An introduction to educational research: Connecting methods to practice*. Thousand Oaks, California: SAGE Publications, Inc.
- Lowery, K., Geesa, R., & McConnell, K. (2018). Designing a peer-mentoring program for education doctorate (EdD) students: A literature review. *Higher Learning Research Communications, 8*(1), 30–50. <https://doi.org/10.18870/hlrc.v8i1.408>
- MacDonald, C. (2012). Understanding participatory action research: A qualitative research methodology option. *The Canadian Journal of Action Research, 13*(2), 34–50. Retrieved from <http://journals.nipissingu.ca/index.php/cjar/article/view/37/33>
- Martin, K. A., Goldwasser, M. M., & Galentino, R. (2016). Impact of cohort bonds on student satisfaction and engagement. *Current Issues in Education, 19*(3), 1–14.
- McInnerney, J. M., & Roberts, T. S. (2004, July). Online learning: Social interaction and the creation of a sense of community. *Educational Technology and Society, Vol. 7*, pp. 73–81.
- Page, B., Etmanski, C., & Agger-Gupta, N. (2017). *Cultivating belonging: Living leadership in communities of learning*. <https://doi.org/10.25316/IR-278>
- Radda, H. (2012). From theory to practice to experience: Building scholarly learning communities in nontraditional doctoral programs. *InSight: A Journal of Scholarly Teaching, 7*, 50–53.
- Rockinson-Szapkiw, A. J. (2019). Toward understanding factors salient to doctoral students' persistence: The development and preliminary validation of the doctoral academic-family integration inventory. *International Journal of Doctoral Studies, 14*, 237–258. <https://doi.org/10.28945/4248>
- Sahin, I., & Shelley, M. C. (2008). Considering students' perceptions: The distance education student satisfaction model. *Educational Technology & Society, 11*(2008), 216–223.
- Santicola, L. (2016). Pressing on: Persistence through a doctoral cohort program in education. *Contemporary Issues in Education Research (CIER), 6*(2), 253. <https://doi.org/10.19030/cier.v6i2.7736>
- Savage, H. E., Karp, R. S., & Logue, R. (2004). Faculty Mentorship At Colleges And Universities. *College Teaching, 52*(1), 21–24. <https://doi.org/10.3200/CTCH.52.1.21-24>
- Sverdlik, A., Hall, N. C., McAlpine, L., & Hubbard, K. (2018). The PhD experience: A review of the factors influencing doctoral students' completion, achievement, and well-being. *International Journal of Doctoral Studies, 13*, 361–388. <https://doi.org/10.28945/4113>
- 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. *Qualitative Report, 17*(31), 1–14.
- Torres, K., & Statti, A. (2018). Exploring online student engagement through doctoral residencies: A single instrumental case study design. *E-Learn: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education, 1296–1302*. Las Vegas.

**NOTES**