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Investigation of Self-Directed Learning Readiness Among Doctoral Students Between In-Person and Online Programs

Julia Kirk and Andrew Courtner

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INVESTIGATION OF SELF-DIRECTED LEARNING READINESS AMONG DOCTORAL STUDENTS BETWEEN IN-PERSON AND ONLINE PROGRAMS

Julia Kirk and Andrew Courtner

Persistence in doctoral programs has historically been low with less than 50–75% of students graduating from their programs. Though research has been conducted on self-directed learning and doctoral programming, research is scant on self-directed learning readiness in doctoral students and mode of learning (i.e., online or in person). The purpose of this study was to investigate the self-directed learning readiness of doctoral students between in-person and online Doctor of Education programs at two small, private, liberal arts universities in southeastern United States using the Personal Responsibility Orientation to Self-Direction in Learning Scale. Descriptively, students enrolled in the in-person program had slightly higher scores in motivation, initiative, and overall self-directed learning readiness; students enrolled in the online program had slightly higher scores in self-efficacy. Statistically, students enrolled in the in-person program had significantly higher control scores.

Keywords: self-directed learning readiness, online learning, in-person learning, EdD program

Though there were postsecondary degree programs delivered in an online environment before the COVID-19 pandemic, this pandemic forced postsecondary program leaders to make the hard choice of possibly moving their in-person instruction either partially or entirely online (Korn et al., 2020; Marcus, 2020). School of Education leaders pondered this same question about their graduate programming where some moved their graduate programs entirely online and some remained in an in-person model. Doctoral programs were not excluded from this decision as doctoral program leaders also had to consider moving to an online model in a postpandemic world (Donlon & King, 2024). Program leaders considered the benefits and disadvantages of both in-person and online program formats. For in-person learning, students are more engaged in the classroom; report higher interactions with faculty, staff, and other students; and have a higher sense of belonging in their studies and with the institution (Ovink et al., 2024; Ruedas-Garcia et al., 2022). Additionally, students have flexibility with online asynchronous learning, have easier access to online material, and can record meetings and sessions (Alsayed &

Althaqafi, 2022). Finally, for adult students, in-person learning may not be ideal for schedules and life demands thus making the online learning option more appealing.

There are also disadvantages to the online learning format. Research has indicated technological and internet challenges are a major disadvantage and deterrent to students completing their online program (Wyatt et al., 2023). Additionally, online doctoral program students have a 10–20% higher attrition rate than students in in-person doctoral programming (Rovai, 2002). Overall, in either delivery mode, doctoral programs continue to struggle with student persistence, showing between a 50% and 75% completion rate (Council of Graduate Schools, 2018; Ivankova & Stick, 2007). Previous research (Kirk & Courtner, 2020; Porter et al., 2020; Ruttencutter, 2018) has been conducted on self-directed learning (SDL) readiness related to doctoral students in education; however, limited research exists about how the program format (in-person or online) of a doctoral program in education relates to students' SDL readiness. With the problem of continued lack of doctoral student persistence in both in-person and online doctoral programs and the decision Doctor of Education (EdD) program leaders needed to make related to potentially shifting their instruction online, the purpose of this study was to investigate the SDL readiness of doctoral students between in-person and online EdD programs at two small, private, liberal arts universities in the southeastern United States.

Literature Review

SDL is a theory of adult learning whereby individuals learn in a manner at will, learning what and how they would like to learn. Adults, and therefore doctoral students, are by nature self-directed learners (Houle, 1961). According to Brockett (2023), SDL accounts for about 70–80% of adult learning; and according to Tough (1979), 80% of adults engage in planning their own learning activities. Guglielmino (1977) stated self-directed learners exhibit initiative, independence, and persistence in their own learning and accept responsibility for that learning. Learners who are self-directed pursue their own learning because they perceive it to have value (Knowles, 1980; Merriam & Caffarella, 1999; Ponton & Carr, 2000). Brookfield (1985) and Long (1989) surmised SDL involves the learner's choice of learning and the sociological components, or the social environment, included with their learning.

Ponton (2018) and Ponton and Carr (2016) found the higher an individual's educational degree, the more self-directed they are. Therefore, individuals in graduate school, and furthermore in a doctoral program, are likely to have higher levels of SDL readiness. In 2007, researchers found around 50% of doctoral candidates did not complete their doctoral program (Ivankova & Stick, 2007); 10 years later, the Council of Graduate Schools (2018) found fewer than 75% of students who entered a doctoral program finished that program within 10 years of beginning their program. While this is an increase over the 10-year period between these two studies, researchers are still trying to understand the components that do and do not allow for persistence and completion in doctoral degree programs. Also, students enrolled in online doctoral programs have a significantly higher attrition rate than those enrolled in in-person programming (Rovai, 2002; Terrell et al., 2009). According to Rovai, doctoral students

enrolled in an online program have a 10–20% higher attrition rate than students enrolled in in-person doctoral programming.

Researchers have investigated factors that influenced doctoral student persistence, including connectedness/isolation (Erichsen et al., 2014; Lovitts, 2001; Terrell et al., 2009), social and family integration (Rovai, 2002), faculty engagement (Burns, 2018; Burrus et al., 2019), and motivation (Burns, 2018; Santicola, 2013). Researchers have found the problem or point where autonomy wanes with doctoral students toward their degree completion tends to arise in the dissertation phase of the doctoral program (Burns, 2018). Santicola (2013) studied the cohort model over 3 years at a university in a management doctoral program and found doctoral students had commitment/discipline to persevere, put the doctorate first, preferred to work independently and research alone, and were full-time employed. All four are interesting findings, however, the desire to work independently and research alone is an interesting factor that may be specific to doctoral students. It might be that the encouragement of self-direction in work and research promoted their persistence in the program. For in-person learning, students are more engaged in the classroom; report higher interactions with faculty, staff, and other students; and have a higher sense of belonging in their studies and with the institution (Ovink et al., 2024; Ruedas-Garcia et al., 2022).

One avenue not as heavily investigated in doctoral student persistence is the presence of SDL elements of a doctoral program (Porter et al., 2020) and the SDL readiness of doctoral students (Kirk & Courtner, 2020; Premkumar et al., 2018; Ruttencutter, 2018). In 2020, Porter et al. conducted a qualitative study of former doctoral students to understand their experiences in their doctoral program learning environment through interviews using Knowles's (1980) 5-step SDL model. Porter et al. found when components of SDL were facilitated within doctoral programs, it could improve doctoral degree persistence. Additionally, Kirk and Courtner conducted a quantitative study on SDL and EdD students and found EdD students had above average SDL readiness scores. More specifically, female education graduate students had higher levels of control, a subfactor of SDL (Kirk & Courtner, 2020). Additionally, Ruttencutter found older EdD students had higher levels of SDL readiness and SDL readiness factors (four factors of initiative, control, self-efficacy, and motivation) had significant positive correlations with grit, showing older students and those in EdD programs had higher SDL readiness and higher levels of grit, which led to persistence (Ruttencutter, 2018). Finally, Premkumar et al. found the SDL readiness scores of Doctor of Medicine and Doctor of Osteopathic Medicine students decreased each year they were enrolled in the program. Students in Year 4 had significantly lower SDL readiness scores than they did in Year 1 of the same program (Premkumar et al., 2018). This finding is particularly interesting when coupled with the discussion about how the dissertation phase, which comes at the end of the doctoral degree process, is often where students start to fall off track. Coupling the understanding that the environment of the doctoral program experience should foster SDL (Porter et al., 2020) and the findings that doctoral students have higher than average SDL readiness scores (Kirk & Courtner, 2020; Premkumar et al., 2018; Ruttencutter, 2018), the element of learning online could be related to SDL readiness in education doctoral students.

Researchers have used the Personal Responsibility Orientation to Self-Direction Learning Scale (PRO-SDLS; Stockdale, 2003; Stockdale & Brockett, 2011) to measure adult SDL readiness in various forms. The PRO-SDLS was updated by Stockdale and Brockett in 2011. The PRO-SDLS was developed from the personal responsibility orientation model (Brockett & Hiemstra, 1991) that explained the connection, or central concept, for understanding self-direction. Personal responsibility means learners take responsibility, or ownership, for their actions and learning. The difference between the personal responsibility orientation model and other models of SDL is that the social context was also taken into consideration, which is related to the mode of delivery in this study. Using the PRO-SDLS instrument, Morris (2019) found that fostering SDL competence in formal education settings was important. Along the same lines as the current study, Tainsh (2023) found in a study with 189 learners in an online program at a large institution that there were significantly lower PRO-SDLS total scores among those learners who had withdrawn from the online program than those who were still enrolled and found significantly higher PRO-SDLS scores in initiative among those who were only enrolled online as compared to their in-person peers.

According to Lehan et al. (2021), online doctoral programs and learners have unique needs and should be studied in separate ways. Burrus et al. (2019) investigated online doctoral student success predictors and found increasing faculty engagement in student support and student research would be helpful for student success in online doctoral programs. In online learning, students have been found to have more flexibility with asynchronous learning, have easier access to online material, and can record meetings and sessions (Alsayed & Althaqafi, 2022). However, online learning does have drawbacks including technology and internet challenges (Wyatt et al., 2023) and anxiety related to computers and the internet (Bolliger & Halupa, 2012). The purpose of this study was to investigate the SDL readiness of doctoral students between in-person and online EDD programs at two small, private, liberal arts universities in southeastern United States. The data were compared between the institution offering an online-only program and the institution offering an in-person program to determine if type of program—online versus in-person—had any relationship with the level of SDL readiness of the enrolled students.

Method

Research Design

This study employed a nonexperimental ex post facto quantitative research design (Wiersma & Jurs, 2009). An ex post facto research design is used to investigate the relationships between the variables when the researchers cannot randomly assign participants to different conditions or directly manipulate the independent variable. Since the students were already enrolled in their respective doctoral programs, random assigned was not possible nor manipulation of any independent variables.

Procedures

For this study, students enrolled in an online and an in-person EdD program at two private, liberal arts institutions were sent the PRO-SDLS survey (Stockdale, 2003) through Qualtrics. The PRO-SDLS is a 25-item, Likert scale survey that has been used in many research studies for adult learners. The PRO-SDLS provides a total score of a student's SDL readiness. Additionally, the instrument provides scores for initiative and control, which represent the teaching learning transaction component, and self-efficacy and motivation, which represent the learner characteristics component (Stockdale, 2003). According to Stockdale and Brockett (2011), the PRO-SDLS was valid and reliable in a group of graduate and undergraduate education students ($\alpha = .92$). Additionally, factor analysis established that four latent variable models fit the data. Stockdale provided permission for the use of the PRO-SDLS in this study. There are many instruments available today that measure SDL readiness in individuals. One of the first instruments developed to measure SDL readiness was Guglielmino's (1977) Self-Directed Learning Readiness Scale, later termed the Learner Preferences Assessment. Additionally, Oddi's (1986) Continuing Learning Inventory is also available to measure self-directed continued learning. Confessore and Confessore (1994) developed the Learner Autonomy Profile, which focused on learner behavior intentions. The three scales just described are used with individual learners to determine readiness, continued learning, and behavior, respectively. Additionally, at the time of this study, there were a few newer scales, such as the Self-Directed Online Learning Scale, which was developed by Yang et al. (2020) and measures self-direction in online learning; Raemdonck et al.'s (2017) instrument to measure self-directedness in work-related learning processes; and Botha and Masenge's (2022) Adult Learner Self-Directedness Scale, which measures self-directedness in what they term "open, distance, and e-learning" (para. 3). Though these instruments potentially meet a portion of this study, the PRO-SDLS was specifically created for use in a higher education classroom without specific determination to mode of learning and incorporated the social context of the learning environment and was thus the appropriate choice for this study.

At "Water Sound University" (WSU), the 40 students in the in-person program were sent the survey in October to complete during their October cohort meeting and completed it in class. Thirty-four students completed the survey. At "Applewood State University" (ASU), the survey link was sent to 84 students, and 70 students responded. Students in the online program were sent the survey in October and were given 2 weeks to complete the survey. Survey responses were kept with the researcher at each institution and then compared on an aggregate level.

Participants

Participants were recruited from two private, liberal arts institutions in the southeastern portion of the United States and enrolled in an EdD program. Both institutions' main campuses were in the same state; however, both programs enrolled students from various states across the country. Each program offered very similar program

concentrations related to P–12 education and higher education, had similar program completion timelines, and had similar completion rates.

The EdD program at WSU offered coursework in-person on intensive weekends each month during the fall, spring, and summer semesters. At the time of this study, WSU had 40 students in the coursework portion of the program and an additional 55 candidates in the dissertation phase of the program. WSU is a private, liberal arts institution located in the state of Tennessee and serves the Appalachian community. The EdD program is one of 10 doctoral programs in the institution and one of three nonprofessional school doctoral programs. The EdD program serves students from multiple states and is not limited to only Tennessee or the Appalachian region. The cost of WSU is \$700/credit hour.

The EdD program at ASU was entirely online and asynchronous with no in-person coursework during the fall, spring, and summer semesters. At the time of this study, ASU had 84 students in coursework and an additional 41 students in the dissertation phase. ASU is a private, liberal arts institution located in the state of Tennessee. The EdD is one of three professional, doctoral programs offered at the university. With being an online program, the EdD program serves students all over the country, and six international students are enrolled. The cost of ASU is \$725/credit hour. WSU and ASU are very similar in size of enrollment and both institutions have been established for over 125 years.

The population of participants were students still in EdD coursework (i.e., not yet in the dissertation phase). For the WSU, 40 students were enrolled in coursework at the time of this study, and 34 participants responded to the survey. All 34 had full, complete responses, and all 34 participant responses were used in data analysis. For the ASU, 84 students were enrolled in coursework, and 70 participants responded to the survey; however, six of the responses were incomplete and discarded from analysis. Thus, 64 responses from ASU were used in data analysis. The sample size was 98 participant responses, 34 representing the in-person program (WSU) and 64 representing the online program (ASU).

Data Analysis

Three research questions (RQs) guided this study:

1. Is there a significant difference in students' SDL readiness between students enrolled in in-person and online programs?
2. Is there a significant difference between these two groups in the teaching learning transaction component of SDL readiness, which includes the factors of initiative and control?
3. Is there a significant difference between these two groups in the learner characteristics component of SDL readiness, which includes the factors of self-efficacy and motivation?

For each RQ, the independent variable was the type of EdD program (i.e., in-person or online). For RQ1, the dependent variable was the PRO-SDLS total score. For RQ2, the

dependent variables were the initiative and control scores; for RQ3, the dependent variables were the self-efficacy and motivation scores. An independent samples t test was used to analyze data for RQ1, and a one-way multivariate analysis of variance (MANOVA) was used to analyze data for RQ2 and RQ3.

Findings

RQ1

Based on the Levene's test, the assumption of equal variances was met ($F = 1.596, p = .209$); thus, the t -test results were interpreted with this assumption being met. There was not a statistically significant difference in students' SDL readiness total score between students enrolled in an in-person program and an online program ($t = .709, p = .480$). Though not statistically significant, descriptively students who were enrolled in the in-person EdD program ($M = 93.47$) had slightly higher SDL readiness total score compared to students enrolled in the online EdD program ($M = 92.07$).

RQ2

Box's M test indicated the assumption of equal covariances was met ($Box's M = 1.569, p = .676$). Based on the MANOVA, there was a significant difference between students in the in-person and online programs on the combined dependent variable ($Wilks \lambda = .925, F = 3.835, p = .025$). Examining the dependent variables separately, there was not a statistically significant difference in initiative based on program type ($F = 1.90, p = .171$), but there was a statistically significant difference in control based on program type ($F = 3.839, p = .049$). Students enrolled in the in-person program ($M = 22.38$) had significantly higher control than students enrolled in the online program ($M = 21.26$). Though not statistically significant, descriptively students enrolled in the online EdD program ($M = 20.50$) had slightly higher initiative than students in the in-person EdD program ($M = 19.58$).

RQ3

Box's M test indicated the assumption of equal covariances was met ($Box's M = 3.925, p = .281$). Based on the MANOVA, there was not a significant difference between students in the in-person and online programs on the combined dependent variable ($Wilks \lambda = .961, F = 1.935, p = .150$). When looking at the dependent variables separately, there was not a statistically significant difference in self-efficacy ($F = .003, p = .956$) or motivation based on program type ($F = 3.155, p = .079$). Though not statistically significant, descriptively students enrolled in the online program ($M = 25.62$) had slightly higher self-efficacy than students enrolled in the in-person program ($M = 25.58$), and students enrolled in the in-person program ($M = 25.91$) had slightly higher motivation than students in the online program ($M = 24.68$).

Discussion

The purpose of this study was to investigate the SDL readiness of EdD students between in-person and online programs at two small, private, liberal arts universities in southeastern United States. Overall, previous researchers had strongly indicated individuals pursuing or holding a graduate degree are more self-directed in their learning (Ponton, 2018; Ponton & Carr, 2016). The participants in this study were students pursuing the EdD; thus, based on previous researchers' findings, these doctoral students would be expected to have a higher level of SDL compared to other students pursuing lower levels of postsecondary education.

Based on the findings, there were no statistically significant differences in students' total score, initiative, self-efficacy, or motivation in SDL readiness between the in-person and online programs. There was a statistically significant difference in control with students enrolled in the in-person program having significantly higher control than students in the online program. Comparing these findings to previous literature, the finding that the in-person program had statistically significant higher control was surprising. With students enrolled in the in-person program, it was assumed the interaction with faculty and scaffolding of the coursework contributed to less control, not more, and that students enrolled in the online program would have higher levels of control. We expected the online program to enroll and facilitate learners with higher self-directed readiness.

Several implications for practice can be garnered based on the findings of this study as EdD program leaders consider shifting their programming to an online format. Students enrolled in the in-person program had significantly higher scores in control than students in the online program. Administrators of online programs could implement strategies and plans to help increase students' SDL control. Additionally, overall, the scores of students' SDL readiness between both programs were similar. Other doctoral program directors and administrators could examine these two programs to see the efforts already implemented in the program that helped instill SDL in their doctoral students.

Recommendations for future research to expand this initial study of students' SDL readiness between in-person and online EdD programs could include the following. First, as previous researchers have indicated, students have higher SDL in graduate programs, specifically in doctoral programs. Since the participants in this study were enrolled in in-person and online doctoral programs, future research could examine student SDL in in-person and online master programs as this would provide a broader picture of student SDL in graduate programs overall and if there were any differences between those in-person and online programs. Second, this study only examined one in-person EdD program and one online EdD program; thus, future research could include more programs to have a larger sample size to allow for more generalizable results. Thirdly, the only statistically significant finding of this study was a significant difference in students' control with students enrolled in the in-person EdD program having significantly higher control. Additional research could be conducted to investigate this significant finding.

Conclusions

Researchers continue to investigate reasons behind lack of persistence in doctoral programs (Council of Graduate Schools, 2018; Ivankova & Stick, 2007), including online doctoral programs (Rovai, 2002). Online learning and in-person learning have shown to have several reasons for student motivation and persistence (Alsayed & Althaqafi, 2022; Bolliger & Halupa, 2012; Burns, 2018; Burrus et al., 2019; Erichsen et al., 2014; Lovitts, 2001; Santicola, 2013; Terrell et al., 2009; Wyatt et al., 2023). Researchers have studied SDL readiness in doctoral programs and have found the inclusion of SDL components and facilitation to be beneficial (Kirk & Courtner, 2020; Porter et al., 2020; Ruttencutter, 2018). In this study, students at two private, liberal arts institutions were studied using the PRO-SDLS to determine SDL readiness between students in an in-person and an online EdD program.

No statistically significant differences were found in initiative, motivation, self-efficacy, or overall SDL readiness between students in the two programs; however, a statistically significant difference was found in control with students in the in-person program having significantly higher control scores than students in the online program. As EdD program leaders consider the potential shift to online programming, they can use the results of this study to first understand there is no real difference between the SDL readiness levels of online and in-person EdD students. This means the shift to online learning does not necessarily capture, enroll, or produce individuals with higher SDL readiness. Additionally, as the in-person program EdD students reported more control than the online students, EdD leaders can also use this information to help them think about what might be causing the control to be so much higher in the in-person model and ensure replication of that for online programming. To accommodate for this lower control in the online learning environment, EdD program leaders should implement a targeted and scaffolded writing support model to empower students to have more control over their dissertation writing.

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