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Employing a Community of Inquiry Framework to Understand Graduate Students' Perceptions of Supports in Asynchronous Online Courses Focused on Assessment

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Abstract

As universities increase the number of online course offerings, the quality of programs is often called into question. In many instances, student input is not solicited when devising online course offerings and faculty often lack the training needed to devise a supportive online learning environment. The purpose of this qualitative study was to examine the supports that graduate students experience in an online graduate program focused on assessment practices for students with disabilities. The community of inquiry framework was used to examine the combination of social, teaching and cognitive presence. Findings from the study suggest that establishing and maintaining a vibrant learning community is invaluable to students and that professors must demonstrate a commitment to being accessible, responsive, and flexible while maintaining structure and consistency in courses.

Employing a Community of Inquiry Framework to Understand Graduate Students' Perceptions of Supports in Asynchronous Online Courses Focused on Assessment

Online course offerings are increasing at a faster rate than traditional course offerings (Beck, 2010). The implementation of hybrid and fully online courses has provided universities an advantage in reaching students from across the globe (Cole & Kritzer, 2009). While students herald the flexibility and delivery method, institutions of higher education embrace online learning as a method to provide quality instruction at a lower cost (Garbett, 2011). However, students' perceptions of supports during online instruction are not always been clearly understood. Further, little research has explored graduate students' experiences in online learning programs. In order to improve the quality of graduate level online education, it is important to understand student experiences of support. Thus, the purpose of this study was to apply the community of inquiry framework to understand graduate students' perceptions of supports in an online graduate program specializing in assessment practices.

The advancement of technology and increases in student enrollment have compelled many universities to explore online delivery of courses (Allen & Seaman, 2011; Carr, 2014). The use of online courses in higher education continues to proliferate because it provides “educational opportunities to individuals with geographic, time, or other constraints that make postsecondary education difficult or impossible to pursue” (Crawford-Ferre & Wiest, 2012, p. 11). Whereas institutions of higher education have been quick to embrace online education because it helps address issues related to classroom space and increased student enrollment (Leader-Janssen, Nordness, Swain & Hagaman, 2016), faculty have been slow to adopt this instructional delivery model for numerous reasons including lack of support for online course development, lack of student contact, and a lack of release time for course design. When

effective online course delivery cannot be accomplished through repackaging of traditional course content, faculty must restructure how course content is delivered. Faculty must also take into consideration the content, student ability, and course sequence within the curriculum (Cornelius & Glasgow, 2007).

Barriers and Supports of Online Learning

One issue that arises when discussing online education is quality. Online learning can be as effective as face-to-face learning (Sachar & Neuman, 2010); however, it is important to understand that online education is not just a medium, it is an environment (Bernard et al, 2004) and a key component of that environment is the instructor (Hogan & McKnight, 2007). Several studies have indicated that students identify a feeling of being disconnected from others and perceive a lack of social interaction in online courses (Chang, Hurst, & McLean, 2015; deNoyelles, Zydney, & Chen, 2014; Jacobi, 2017; Muilenburg & Berge, 2005; Vonderwell & Turner, 2005). Tubbs and Mos (2006) posited that one of the most important components of online instruction is communication as a means to engage students in learning. Social interaction in an online environment promotes a sense of kinship and belonging and the likelihood that an individual will enroll in another online course (Muilenburg & Berge, 2005). Students gauge the level of importance of online communication by the rate of involvement of the instructor (Mandernach, Gonzales, & Garrett, 2006).

Successful online learning requires programs to be developed in such a way that the “learner and instructor can be physically apart but connected through the flexibility, accessibility, and availability of an interactive curriculum and pedagogy” (Bouhnik & Marcus, 2006, p. 301). Noted supports in online courses include course management, video-modeling, and the use of various Web 2.0 technologies.

In online learning, instructors take on a role of facilitator by creating courses around learning modules that contain activities to explore the content, interact collaboratively with peers, and to participate in problem solving and active learning (Guerrero & Crites, 2013). Crawford-Ferre and Wiest (2012) noted the need for online courses to support students via multiple means of engagement including compressed videos, video lectures, presentation slides, and multiple means of communication. A focus on asynchronous communication allows maximum flexibility to meet the different schedules and needs of the student population. Through the development of modules including individualized work, small group projects, whole-group discussions and video lectures, instructors can create a learning environment that is rich and engaging.

Another support to online learning is the implementation of video-modeling. Built on the premise of Bandura's (1977) sociocultural theory, video-modeling allows students to learn by observing and then imitating the actions of others. Current utilization of video-modeling enables preservice educators to "move beyond didactic instruction to more student-centered reflective practice" (Dieker et al., 2009, p. 181). The use of video provides a means for the user to control the rate and repetition of their viewing (Fill & Ottewill, 2006), thus enabling educators to use instructional methods that are more effective than a traditional lecture format, thereby providing an effective means to engage students in active learning. In tandem with video-modeling, many educator preparation programs are implementing the use of videoconferencing. Videoconferences enable students to interact with one another in a nonthreatening environment and enhances the sense of community and sharing of ideas among students and the instructor.

Additionally, conveyance tools assist in supporting online instruction. Web 2.0 tools are the vehicle used to support teaching and learning in the digital age (Norton & Hathaway, 2008).

Web 2.0 tools include tools such as bookmarking, wikis, blogs, and shared documents. While the instructor provides the infrastructure, support, and guidance, the students “actively and collectively build their knowledge of the uses “and applications of these tools in the subject area being studied” (Guerrero & Crites, 2013, p. 194). The use of conveyance technologies is a support mechanism leading to successful online learning experiences.

Theoretical Framework

The Community of Inquiry (CoI) is a theoretical framework utilized in studying the effectiveness of online learning (Garrison, Anderson,& Archer, 2000). The CoI framework has been used to examine and evaluate a multitude of pedagogical areas including the evaluation of online discussions, enhancement of program rigor, identification of strengths and weaknesses in online learning. Additionally, the CoI framework allows insight into first-time online learner challenges and predict student performance and satisfaction (Lowenthal & Dunlap, 2014). Garrison et al., (2000) postulated through a combination of social presence, teaching presence, and cognitive presence, meaningful online learning can occur.

Social presence. Social presence, or a sense of community, can be conceptualized as the ability of participants to employ their unique, personal characteristics into the learning community. In this manner, participants present themselves as being relatable (Garrison & Anderson, 2003). Social presence is thought to be comprised of three components: affective expression, open communication, and group cohesion (Rourke, Anderson, Garrison, & Archer, 1999). In the CoI framework, social presence occurs through the development of student relationships through support and encouragement of critical and higher order thinking (Garrison & Akyol, 2013). Social presence in an online environment is a strong predictor of of satisfaction (Garrison, Anderson, & Archer, 2001), student engagement and learning (Swan &

Shih, 2005), motivation (Lin, Lin, & Laffey, 2008), and retention in online programs (Boston et al., 2009)

Teaching presence. Teaching presence is an educator's "ability to facilitate both social and cognitive presence through instructional design and organization, the facilitation of communication, and instructional approaches with the intent to realize meaningful and educationally worthwhile outcomes" (Anderson, Rourke, Garrison, & Archer, 2001, p. 5). In addition to instructional design and organization, building understanding and explicit instruction are also key components of teaching presence (Anderson et al., 2001). Within the domain of teaching presence, three subcategories were identified: appropriate design of learning materials, facilitation of online discussions, and directed instruction (Annand, 2011).

Video-modeling enhances teaching presence. The use of video provides a means for the user to control the rate and repetition of their viewing (Fill & Ottewill, 2006) thus enabling educators to use instructional methods that are more effective than a traditional lecture format. As a result, students have an opportunity to engage in active learning. In conjunction with video-modeling, many educator preparation programs are implementing video-conferencing. This enables students to interact with one another in a nonthreatening environment by encouraging the sense of community and sharing of ideas among students and the instructor.

Cognitive presence. Cognitive presence is the extent to which the participants in an online learning program can construct meaning through sustained communication (Garrison et al., 2000). Garrison et al. (2001) maintained that critical thinking and practical inquiry are fundamental components of cognitive presence. By providing opportunities for critical thinking, independent learning, and scaffolding, the instructor can improve students' progression through these stages. As such, the teaching and social presence play a strong role in the quality of

cognitive presence and learner outcomes (Kumar, Dawson, Black, Cavanaugh, & Sessums, 2011; Rovai, 2002).

Online course delivery has become increasingly popular at higher education institutions across the United States. Researchers have identified the pivotal role instructors play in online students' learning experiences. However, some instructors may view the quality of online learning as inferior to that of traditional, face-to-face courses and face challenges in creating an effective learning experience for online courses. Commonly used to assess online learning, the CoI framework suggests the need for instructors to incorporate social, teaching and cognitive presence for student success in online courses. To the best of our knowledge, the CoI framework has not been explored within a graduate level, asynchronous program of special education focusing on assessment. This qualitative study applies the community of inquiry to understand student perceptions of support in one online graduate program in special education.

Method

This case study collected and analyzed qualitative data from recent graduates of an online educational diagnostician program at a regional university in Texas. Case study methodology was utilized for an in depth exploration of the perceptions of students in an online graduate assessment course. Specifically, the researchers wanted to discover the online supports identified by students.

Context

Requirements for the online educational diagnostician program included completion of a bachelor's degree, minimum grade point average (GPA) of 2.5 in the last 60 hours of study, possession of a Texas teacher certificate, and verification of two years of creditable teaching experience. The two-year, 36-hour cohort program was focused on assessment and identification

of students with disabilities. Graduate students were required to complete 2 three credit hour courses each semester. Prior to designing the first university program in the state of Texas featuring video-modeling of assessment instruments, departmental faculty researched online programs focused on assessment and identification of students with disabilities. The faculty members spent over one hundred hours recording videos detailing how to administer, score, and interpret various testing instruments including the *Kaufman Assessment Battery for Children, Second Edition*, *Kaufman Tests of Educational Achievement, Third Edition*, *Woodcock Johnson IV Tests of Cognitive Abilities, Second Edition*, *Woodcock Johnson IV Tests of Achievement*. Additionally, the education faculty members designed uniform course shells within the university learning management system and collaborated to ensure concomitant policies across all courses.

Participants

Purposeful sampling was utilized in this study. Purposeful sampling rests on the assumption that researchers want to discover and gain insight. Therefore, researchers must select a sample to study in which the most can be learned and in which the selected students will be illuminated (Merriam, 1998; Merriam & Tisdell, 2016). The cohort of eight students was contacted via email to participate in the study. Five out of eight students agreed to participate. The other three noted difficulties in participating such as child care issues, work responsibilities, and scheduling conflicts. The study included one male and four females. Two of the participants identified as African American with three identifying as Caucasian. The mean age of the group was 34 years. Two of the participants taught in a special education setting, two in a general education classroom, and one participant was an IEP facilitator. The participants completed a face-to-face online interview conducted via Zoom®, a web conferencing platform. The two

faculty researchers conducted the semi-structured interviews. One researcher interviewed three participants; the other, two participants. Each of the interviews, lasting approximately one hour, were audiotaped and later transcribed.

Procedures

The study was conducted in accordance with university-approved institutional review board guidelines. One semi-structured interview question was used: (1) What facilitated your learning in the online graduate program of special education? Follow-up questions were asked for clarification and to explore the participants' responses. Interviews were conducted until data saturation was reached. Data saturation is reached when there is enough information to replicate the study, when the ability to obtain additional new information has been obtained, and when further coding is no longer feasible (Guest, Bunce & Johnson, 2006; O'Reily & Parker, 2012; Walker, 2012).

Data Analysis

Bernard (2006) noted that data analysis is "the search for patterns in data and for ideas that help explain why those patterns are there in the first place" (p. 452). The faculty researchers, along with a graduate research assistant, used coding to assist with organizing and grouping data into categories. First, the researchers independently developed his or her own codes before evaluating and coding the transcripts. Then, the researchers met to compare the codes and develop a definition for each. The researchers met in six sessions to code data and establish interrater reliability. Once consensus was established, a codebook was devised and used to complete the coding of transcripts. A comparative analysis was continually used in order to examine codes, collapse overlapping categories, and to identify any errors in the categories. Once the themes were coded and verified, they were organized within the CoI framework.

Trustworthiness was achieved through multiple means of triangulation including the use of a research team. Merriam and Tisdell (2016) noted that trustworthiness of research findings is improved by the use of a research team. Additionally, trustworthiness was maintained through the use of an audit trail. The audit trail included research memos, and field notes maintained in a journal. According to Merriam and Tisdell (2016), field notes serve as a method for recording initial impressions and data analysis. They also serve as a backup for audio recordings. Moreover, field notes were used to verify themes (Patton, 2015). Research memos written after the analysis phase served to verify themes and enable triangulation. Triangulation of data occurs when multiple sources of data are used to validate the findings (Creswell, 2003). In this study, field notes, transcripts, member checking and thick, rich descriptions were used to validate the study findings (Merriam & Tisdell, 2016).

Results

To help the reader gain insight into the experiences of graduate students and the supports necessary for learning, the findings of this research study were organized utilizing CoI as the theoretical framework. The following research question guided this study: What facilitated your learning in the online graduate program of special education?

Social Presence

Social presence was manifested through the establishment of a learning community. Three subthemes emerged: (1) open door policy, (2) cohort support (3) the compassionate educator.

Open door policy. Meaningful, open communication between learners and educators is essential in the success of online learning programs as this allows students to form personally meaningful knowledge, matching the experience of a traditional classroom (Annand, 2011). Participants reported that having open lines of communication was critical to their continuation

in the program. Thelma said, “I appreciated that you guys answered within that 24 – 48 hour timeline. I don’t even remember waiting 24 hours to get an answer back from you or Dr. D.”

Grace expounded:

I mean you guys were really accessible that was helpful. I feel like you always replied to emails or Zoom [video] conferences within the usually in a day or two really. So that was helpful having access to support especially in an online class. I’ve taken online classes where you can’t get any help and it’s kinda frustrating ... I never had a question unanswered.

Moreover, Thelma commented that accessibility to professors was particularly important when she struggled with a particular assignment. “You were able to guide me just like you would one-on-one if it was a face-to-face -- you were able to guide me through those things.” Linda summed up what the majority of participants revealed regarding access to professors by noting, “The open line of communication that y’all had was just phenomenal.”

Cohort support. All of the participants reported that classmates’ support was one of the most valuable assets in obtaining a graduate degree. In particular, Thelma stated, “The cohort was the most valuable asset to helping me complete it [graduate degree] because they kept cheering me on and helped me through things that I missed. She went on to say, “Being part of a learning community I think was one of the most supporting parts.” Mona also shared:

Building a strong support system with your peers and class too was really beneficial.

There was a number of times for myself, including my group of peers, that wanted to quit and some of us were quite determined to quit. I mean just talking to each other and making sure we kept encouraging each other got us all to the end.

One instrumental dynamic related to support was revealed to be the size of the cohort. Grace pointed out that due to the small size of the cohort ($N = 8$), she benefited educationally because of the frequent accessibility to professors. She remarked, “I mean it was way more intimate. [We] were able to access and get feedback regularly.” Linda also reported that having a small cohort benefited her when connecting with her classmates. She stated, “I think that because we had a smaller group, I was really able to connect with my classmates, like all of them.” In addition to cohort support, participants shared that support from professors was also an important element in their learning.

The compassionate educator. Many of the participants shared that the degree of compassion and flexibility exhibited by the professors in the program was vital to their success. Mona shared:

Well, if you two were like other professors, it just wouldn't have worked. I mean the fact that you all were responsive to us and actually cared about what was going on with us. Most professors wouldn't take that time. So, I mean I think it's about the structure, but it's also about who the professors that are running it [program].

Compassionate educators exhibit flexibility when unexpected circumstances occur in the lives of their students. Ron expressed, “You worked with us on you know outstanding issues that we may have had individually; it really leant itself to a positive educational experience.” Thelma shared, “I had a lot of family situations that occurred and y'all were able to give me a chance to fix ... work on things. You were flexible with the class itself and individual circumstances.” Thelma concluded, “I appreciate that because some people just do not care and I really appreciate it.”

Teaching Presence

In this study, teaching presence was highlighted through the pedagogical framework and the use of video-modeling to teach administration of norm-referenced instruments.

Pedagogical framework. Participants' experiences with course policies, design, and consistent course structure within the learning management system (LMS) is an example of pedagogical framework. Accordingly, participants indicated that one of the most helpful aspects of their learning experiences was the consistency of course policies, design, and organization of courses in the LMS. With respect to course policies, Mona elaborated:

Having the understanding that we knew our assignments were due by Sunday at 11:59 p.m. I mean, most of my stuff I did on the weekends. My weekdays were just crazy and I always prayed I wasn't gonna be like deathly ill on the weekend, but [I] just know that every Sunday that's when your assignments are due and that was consistent and so you can build your life around what you're supposed to do.

The combination of consistent course policies and an organized online learning environment yielded support for the participants. Thelma stated, "Cause after the first one [course] was all set up I knew what to expect and what to complete and when." Ron said this about the overall organization of the program, "Y'all put a lot of time and effort into planning around the online learning environment and that's really what you know sold me [on the program] and helped me prepare for the program." Grace also reflected, "I never had problems accessing anything like as far as Internet or downloading things. It [courses] was ready. It was easy. I thought the process was pretty streamlined."

Video-modeling. Although there are no empirical studies regarding the use of video-modeling for graduate degree programs focusing on assessment practices, participants expressed

the importance of teacher presence in video-modeling in gaining understanding of specific assessment procedures. In particular, Thelma commented:

You guys started videotaping from the very beginning how the testing was supposed to go. I had asked to sit in one of those [testing session in public school] before and I wasn't allowed to cause of confidentiality. So that [videos] was even more important because a lot of us had never even sat in on an actual evaluation.

Meanwhile, Ron asserted that the conversations that took place in the videos were invaluable. He explained, "When y'all did the sample administrations you went through different scenarios. You just didn't sit there and film a kid ... you would take time out pause and say ok I did this and I did this." Moreover, Grace recalled her experiences in trying to score test administrations. She commented, "What was really helpful was having those protocols [test administrations] recorded ... I probably went back and looked at those subtests [videos] at least three or four times." Likewise, Linda stated, "The videos helped me immensely; I could pause it and go back and look at it." She elaborated, "So those videos were God sent; they were amazing. You guys did a great job on those."

Cognitive Presence

Practicum is the hands-on application of course content in which participants interned as assessment professionals (i.e. educational diagnosticians) in an accredited Texas public school during their final semester. In this study, practicum emerged as part of cognitive presence.

Many of the participants mentioned the level of competency and learning experience that the practicum course provided. In her comments, Mona remarked that although she was a special education facilitator for her district, she was initially nervous about practicum. Mona reflected, "I was a little nervous about going into the internship (i.e. practicum), but it all seemed to work

itself out and this past semester going into internship, I felt like I was able to do the job.”

Moreover, Grace commented that the relationship established between the university faculty and mentor in the school district provided evidence about her skills during the practicum semester.

She summarized, “It was nice that Dr. D. was able to meet with my mentor or talk to her and email her that way that connection was there....and I think too it gave credit to what I was doing.” Grace further elaborated that because she was enrolled in an online program that her peers expressed to her that it was likely not as rigorous as a traditional face-to-face program and as a result she may not be have learned what she needed. Grace noted:

I think there is a mindset that it may not be as rigorous or they might not learn as much, but actually our special ed. director sat down with me and went over all our classes and things that we were required to do and we were required to do way more than people who were taking classes at XYZ [name changed] University.

Ron also reported that during his practicum semester that he was required to work with different diagnosticians from across the district. “I’ve worked with a bunch of different diagnosticians, and even during my practicum. I’ve learned a lot of stuff, I learned stuff I should be doing, how to do it, and ... the way I shouldn’t be doing certain things.”

Discussion

This research supported the premise that participants’ learning was facilitated due in part to the integration of social, teaching, and cognitive presence in their program of study. Garrison et al., (2000) posited that when social presence, teaching presence, and cognitive presence are integrated within online courses, meaningful learning can occur.

Social Presence

Although the view of online instruction as being inferior to face to face remains consistent (Allen & Seaman, 2011), participants in our study reported a great sense of learning and group connectedness. After a student gains a sense of community, there is an increase in group cohesion and meaningful online discussions (Arbaugh, 2005; Celani & Collins, 2005; Swan, 2003). Accordingly, the participants in this study overwhelmingly shared that the learning community, accessibility to professors, and open lines of communication were vital in navigating course assignments and projects. Social presence was also achieved when students formed meaningful relationships among themselves. Additionally, several of the participants reported that they had been enrolled in previous online courses and were not able to get their questions answered. By ensuring open lines of communication and access to professors, participants shared that their questions did not go unanswered, which supported their learning as well.

Teaching Presence

A key component of online courses is teaching presence. According to CoI, appropriate design of learning materials, facilitation of online discussions, and direct instruction are smaller domains that enhance teaching presence (Annand, 2011). When courses are methodically organized and course policies are consistent, students are better able to focus on the content being taught. Accordingly, all the participants in this study reported that the overall structure and organization of courses throughout the program and consistency of course policies among professors benefited learning. This resulted in participant perceptions that faculty facilitated student learning as if they had been enrolled in face-to-face courses. Hattie and Timperley (2007) postulated that when feedback is paired with effective instruction, enhanced learning can occur.

Participants in our study overwhelming asserted that the test administration videos were a key aspect of their learning. Hagar (2018) indicated that video self-monitoring provides an opportunity for teachers to view lessons multiple times and is a promising evidence-based strategy. Moreover, Dieker et al. (2009), asserts that video-modeling is a powerful tool that allows educators to move beyond traditional paradigms of instruction to more student-centered practices. That said, the professors in this program relied on trial and error and self-reflections on what worked and did not work while using a variety of self-monitoring strategies to improve delivery due to the lack of empirical studies regarding video-modeling and norm-referenced assessments. This has resulted in the third iteration of recording during the summer of 2019 totaling more than 300 hours in the recording studio.

Cognitive Presence

Cognitive presence, the third component of CoI, may best be demonstrated through critical thinking and practical inquiry (Garrison et al., 2001). Higher-order learning requires sustained critical thought where problems are solved through exploration, collaboration, and testing (Garrison et al., 2000). The practicum experience in which the participants were required to engage in ongoing critical thinking activities by applying their skills on the job is a method of cognitive presence. Additionally, participants interacted with each other, and with professionals in the field. Applying their skills on the job and interacting with other educators served to assess the effectiveness of learning.

Potential Limitations

The number of graduate students who participated in this study was a small sample with similar characteristics who were enrolled in a professional educator program. However, other graduate programs nationwide may offer a wider variety of educational and training

opportunities that could influence graduate students' experiences that are different from the participants who volunteered for this study. In addition, because the purpose of qualitative research is to gain insights into the experiences of participants and potential biases may have emerged as the instructors of the courses were also the lead researchers in this study, broad conclusions about graduate school experiences cannot be generalized. Therefore, future qualitative studies may want a neutral party to conduct interviews. While this study presents certain limitations, the results provide continuing evidence for CoI as a viable framework for online course and program development.

Recommendations

The results of this study have important implications for institutions of higher education and professors who teach online graduate degree programs. Specifically, this study illustrated that the three components of CoI could be important elements to support graduate students in online programs successfully.

Social Presence

This study suggests that a key component of an online program is the existence of a vibrant learning community. Establishing and maintaining a learning community is invaluable to students' learning and promotes positive educational experiences and relationships between classmates and professors that extends well beyond the virtual walls of the classroom (Muilenburg & Berge, 2005). Without a viable learning community, students could feel isolated and disconnected. In addition, peer support (as well as professor support) seemed to reassure participants making them feel less alone while offering comradery.

Teaching Presence

Based on the results of this study, professors teaching online courses may want to demonstrate a commitment to students by being accessible, responsive, and flexible while maintaining structure and consistency in the courses they teach. According to Freeman, Anderman, and Jensen (2015), encouraging student participation and interaction is the most important factor when fostering a sense of belonging. When students feel they belong, their motivation and desire to achieve increases.

One of the most important implications of this study was the use of video- modeling as a tool to teach specific assessment procedures. Participants relied upon these videos to help gain an understanding of the instruments they were administering. The use of videos which depicted professors administering norm-referenced assessments was critical for learning to occur. Therefore, video-modeling which demonstrates a skill, strategy, or specific technique may be a useful tool for higher education faculty to implement in their courses of study. However, the use of video-modeling and administration of norm-referenced assessment instruments has not been studied, but the feedback from participants regarding video-modeling may help to bridge this gap.

Cognitive Presence

Participants were required to demonstrate learning that they acquired during the program in the practicum semester. This may have not only benefited their own professional practice, but it also benefited the greater school community and families that they served. With online programs becoming the norm, ill-conceived perceptions regarding online programs should be challenged. During their practicum experience, participants reported that they felt better prepared

than many of their peers in other programs. Moreover, they indicated that they were able to successfully complete course and practicum requirements.

Future Research

A natural extension of this study is understanding the barriers that graduate students encounter. Specifically, future research should examine graduate students' work-life balance. All of the participants in this study were professional educators in PK-12 settings and full-time students while trying to balance personal and family life. A better understanding graduate students' work-life balance can potentially help professors design online instruction that meets the needs of students while producing desirable learning outcomes.

In addition, given the immense amount of time creating the test administration videos due to the lack of empirical evidence, more research is needed regarding video-modeling in graduate programs. The use of videos which models a skill, strategy, or technique is critical for learning to occur. As a result of such studies, administrative leaders of higher education can help support faculty in developing instructional videos that meets the needs of students in their respective disciplines.

Conclusion

This basic qualitative case study aimed to describe the supports to learning in an online graduate program of special education focusing on the assessment of students with disabilities. The experiences of five participants using the CoI were examined. In particular, this study suggests the need for an online program to establish and maintain a vibrant learning community. Participants echoed the need to feel connected with classmates and professors. In addition, participants noted the need for professors to be accessible, responsive and flexible while maintaining structure and consistency.

The needs of online students are both unique and ongoing. The participants in this study highlighted the necessity for professors to restructure how course content is delivered and the necessity for online programs to carefully consider the content, curriculum, and sequence of courses as universities continue to explore more online delivery of courses.

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