EXPLORING THE IMPACT OF LEARNER-LEARNER INTERACTIONS ON SENSE OF COMMUNITY IN AN ONLINE DOCTORAL DEGREE PROGRAM

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EXECUTIVE SUMMARY

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In this study, the impact of learner-learner interactions on sense of community in an online doctoral degree program is explored through a quasi-experimental mixed methods approach. Survey data and analysis from 46 enrolled students in an online EdD program at a private religiously affiliated Midwestern research university, along with qualitative interviews from 20 participants, suggest a positive link between sustained learner-learner interactions and the development of a meaningful sense of community among online students. The research findings emphasize the importance of intentional program design that ensures continuous opportunities for virtual learners to engage with one another. The implications of this study underscore the evolving nature of online education, urging university leaders, faculty, staff, and students to proactively engage in its ongoing development while recognizing the inherent value these learner communities provide as essential wellsprings of intellectual exploration in the digital age.

To the memory of my grandmother, Catherine Teresa (Almy) Benton, 1934-2007

who instilled in me a deep respect for nature and love of learning that knows no bounds.

ACKNOWLEDGMENTS

never stopped student leaders from stepping on these landmines, but he was always there to help pick up the pieces, offering a simple yet necessary reminder: *keep smiling*.

Finally, my love and thanks to my family. To my aunts, uncles, and cousins for their love and support, but especially their *tough* love, which has kept me honest and grounded through the years.

To my brother Nathan, for his courage and powerful example.

To my brother Steve, for his poetry and powerful palate.

And to my Mom and Dad, who gave me the world.

My Mom, who showed me it was possible to go back to graduate school while working full-time, and for her individual spirit and love of myth.

My Dad, who showed me that anything is possible if you work hard and treat others with respect, and for his quick laugh and love of Guinness.

Nick Butler
Binghamton, NY

At such a time it seems natural and good to me to ask myself these questions. What do I believe in? What must I fight for and what must I fight against? […]

And now the forces marshaled around the concept of the group have declared a war of extermination on the preciousness, the mind of [the individual]. By disparagement, by starvation, by repressions, forced direction, and the stunning hammerblows of conditioning, the free, roving mind is being pursued, roped, blunted, drugged. It is a sad suicidal course our species seems to have taken.

And this I believe: that the free, exploring mind of the individual human is the most valuable thing in the world. And this I would fight for: the freedom of the mind to take any direction it wishes, undirected. And this I must fight against: any idea, religion, or government which limits or destroys the individual. This is what I am and what I am about. I can understand why a system built on a pattern must try to destroy the free mind, for this is one thing which can by inspection destroy such a system. Surely I can understand this, and I hate it and I will fight against it to preserve the one thing that separates us from the uncreative beasts.

If the glory can be killed, we are lost.

<div align="right">

John Steinbeck
East of Eden (1952)

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LIST OF ABBREVIATIONS AND NOTATIONS

CCS   Rovai's (2002b) Classroom Community Scale

EdD   Doctor of Education

OPM   Online Program Manager

CHAPTER ONE

PROBLEM OF PRACTICE

Statement of the Problem

Topic

Online education has significantly expanded in recent years, presenting a new, emergent, and rapidly evolving learning environment for students and universities to navigate (National Center for Educational Statistics, 2021; Koksal, 2020). Graduate students, many of whom previously completed a traditional in-person undergraduate degree offering, are increasingly turning to online programs to further their personal pursuit of a higher education (National Center for Educational Statistics, 2021). To support learners in online graduate programs, including doctoral programs, it is important to consider the holistic student experience and intentionally work to empower individuals to engage with strong, positive, and supportive communities in these virtual settings (Conrad, 2005; Cundell & Sheepy, 2018; Shackelford & Maxwell, 2012).

Literature has established the importance of promoting a positive sense of community among students, which contributes to their overall academic and social success (McElrath & McDowell, 2008; McInnerney & Roberts, 2004; Rovai, 2002a; Swan, 2002; Rovai & Wighting, 2005; see also Tinto, 1997). Compared to a traditional, on-campus graduate degree program, the online modality (i.e., the use of emerging technologies to deliver education to a disparate, diverse, and geographically dispersed student body) presents challenges to universities in establishing a positive sense of community for online students (Gillett-Swan, 2017; Nyysti & Walters, 2018). For example, there are fewer touchpoints for the university, program staff, and instructors to

engage in community development with enrolled students, particularly given the barriers to leveraging community building methods typically used in traditional, physical academic settings—instead, effective virtual alternatives must be considered (McInnerney & Roberts, 2004).

Following research and analysis conducted utilizing a quasi-mixed methods approach, an action plan was developed, informed by the findings of this study, to support online program leadership in their efforts to empower doctoral students in creating and participating in strong and lasting learner-learner communities. This study includes a review and discussion of relevant literature, the researcher's positionality to the subject and setting, methodology and data collection procedures, data analysis procedures, findings, an action plan informed by the research, and finally a personal reflection and conclusion.

The Problem of Practice

This study explored students' perceptions of the value and need for a strong sense of community among peers in an online doctoral degree program with a specific focus on learner-learner interactions. Learner-learner interactions can be defined as instances in online learning where students collaborate and communicate with one another, supplementing both learner-*instructor* and learner-*content* interactions (Moore, 1989). Given the specific challenge of students' physical isolation from the classroom and campus while engaging in the online modality, particular attention was given to these learner-learner interactions which contribute to a positive sense of community while fostering deep camaraderie among classmates (Brown, 2001; Shackelford & Maxwell, 2012).

This study and its findings are presented through participatory action research allowing for a better understanding of the impact of learner-learner interactions on sense of community among doctoral students enrolled in an online degree program at a private, religiously affiliated Midwestern research university. Exploring this phenomenon in-depth within this context allowed for a deep examination of the ways an online program can support strong student communities by empowering students to organically build deep and meaningful relationships with one another, thereby supporting their overall success and wellbeing. Additionally, given the research focus on *doctoral students* and the *participatory action framework* utilized, there is an ongoing opportunity to empower fellow aspiring scholar-practitioners in their search to create and foster meaningful communities within their online program.

As institutions of higher education increasingly embrace the online modality, consideration must be given to the social experience of the student. Traditional on-campus graduate degree programs offer several avenues through which to establish a sense of community among classmates and the broader campus, but a fully online graduate degree program naturally faces barriers to community. Shea (2005) examined how all learning is social and how, despite the difference in modality, online learning programs can be intentionally designed to build and sustain a productive learning environment given the critical role community plays in a student's academic journey. Further examination of this topic with a focus on learner-learner interactions will provide additional data-informed lens through which to understand, and ultimately improve, sense of community among online learners. This research will inform intervention strategies

with a focus on fostering learner-learner interactions which contribute toward the development of positive learner communities across emerging online platforms.

Justification of the Problem

Tinto (1997) emphasized the important role strong sense of community plays in a student's overall success, both academically and socially. Moreover, Shea (2005) underscored the importance of designing online programs intentionally to leverage the social nature of learning to build and sustain potent learning communities in virtual spaces. For this research, particular focus is given to learner-learner interactions in the community building process as they provide students with the opportunity to share knowledge, offer perspectives and insights, and collaborate on group projects (Cundell & Sheepy, 2018; Shackelford & Maxwell, 2012).

This study explores the perceptions of online doctoral students at a private, religiously affiliated Midwestern research university regarding the value and need for a strong sense of community among peers, with a specific focus on learner-learner interactions which can contribute positively to a sense of community while fostering camaraderie among classmates (Brown, 2001; Shackelford & Maxwell, 2012). Given the critical role community plays in a student's academic journey, and the potential challenge posed by the physical isolation of the online modality, this study aimed to gather data and provide intervention strategies to better understand and subsequently improve sense of community in online graduate programs, particularly doctoral programs, leading to a stronger and more holistic student experience.

Deficiencies in the Organizational Knowledge Record

Online graduate degree programs face challenges in establishing a strong sense of community for their students compared to traditional on-campus programs. University and program leaders are likely to have more experience with on-campus environments, including how best to build a strong sense of community among peers in a traditional academic setting. To that end, one area of deficiency in organizational knowledge is the lack of effective strategies and techniques to foster a positive sense of community among students who may experience physical isolation in the online setting. There is also a lack of understanding of the impact of learner-learner interactions on building a positive sense of community in an online program (Brown, 2001). The review of literature, presented momentarily, underscored a need for further research and exploration of effective strategies for building a strong sense of community among online graduate students, particularly through the promotion of learner-learner interactions (Shackelford & Maxwell, 2012). Finally, the impact of partnerships between universities and online program managers (OPMs) which support online graduate degree programs on students, including benefits or challenges to fostering a sense of community among students, has not been researched deeply. This gap in organizational knowledge highlights the need for universities and educators to better understand the challenges and opportunities for establishing a strong sense of community among online graduate students.

Audience

The immediate audience for this research is online Doctor of Education (EdD) students, instructors, and program leaders; and, given the setting-focused participatory action research design utilized for this study, students, instructors, and leaders at the

university where this research took place will particularly benefit. Through this study, student insights were gathered to gain an understanding of how meaningful learner-learner community forms in the online modality. This action research will help inform future interventions with the purpose of improving online doctoral students' sense of community by promoting learner-learner interactions which contribute positively to their sense of community (Rovai, 2002b; Shackelford & Maxwell, 2012). However, the hope is that this research will be broadly beneficial with lessons and strategies for leaders in other online graduate degree programs to foster a positive sense of community, especially as online education continues to expand and leaders look to ensure the quality of education extends beyond the academic course content. Finally, there is value in current students themselves, and particularly doctoral students, reviewing this research to understand the impact by engaging in learner-learner community. Interested students can work proactively to identify ways in which to utilize community building methods identified throughout this research, including specific interventions proposed by the researcher in Chapter Three, to improve their individual experience as current online doctoral student.

Organizational Context

Online graduate education has grown significantly in recent years (National Center for Educational Statistics, 2021; Koksal, 2020). Along with this growth, researchers and university leaders have been interested in understanding the importance of building community in online programs. Many online degree programs, including the setting for this research, are managed in partnership with for-profit companies known as online program managers (OPMs). In exchange for a percentage of tuition revenue,

sometimes exceeding 50%, these companies are contractually obligated to provide

support for their academic partner institutions to build and subsequently maintain these

online degree programs. Often, in addition to marketing these online programs, the

partnerships often include the companies making other financial investments, like

producing course content developed by the university, and assuming responsibility for

some program services, like admission counselor support. Occasionally, these corporate

technology partners also provide student support services for enrolled students, which is

particularly relevant to this research given the role these support services play in

establishing community within the program. This research was conducted within the

context of a doctoral program at a Midwestern research university managed in

partnership with an OPM.

Overview of Research Question, Theoretical Framework, and Methods

The research question this study seeks to address is: what impact, if any, do

learner-learner interactions have on a sense of community? Learner-learner interactions

are instances when students collaborate or communicate with one another to advance

their online learning (Moore, 1989). Further, in considering this question, focus was

placed on students' perceptions of these communities and their personal experiences with

how these communities support their ultimate success in the program. By examining this

phenomenon in-depth, recommendations can be made to cultivate these communities in

the online setting. Additionally, a subquestion explored is how sense of community may

influence a student's sense of isolation. These research questions were explored from the

contextual setting of an online doctoral degree program at a Midwestern research

university.

Sense of community for this study is measured utilizing Rovai's (2002b) Classroom Community Scale (CCS). The calculated total of this scale establishes a baseline measurement of sense of community, allowing future stakeholders within the setting to measure the impact of intervention strategies. Brown's (2001) three stages of community development (i.e., making friends; community conferment; and camaraderie) are then used to explore how students engage in learner-learner interactions which build a positive sense of community. Brown's three stages are utilized as a framework through which to better understand and analyze the phenomenon being researched. Through a quasi-mixed methods approach, with a particular focus on qualitative data collected through interviews, an examination of how online graduate students view the impact of learner-learner interactions on sense of community can be conducted. From there, following an analysis of data collected, recommendations on action steps to encourage the development of deep communities among learners in the online setting are made.

Limitations

This research was conducted at a private, religiously affiliated Midwestern research university (the University). The study includes a survey and interviews with students who are enrolled in an online graduate degree program using a locked cohort model, meaning groups of students move together through the degree program. The cohort model, which ensures students see many of the same classmates throughout their studies, may naturally assist in establishing a base sense of community. However, online programs which utilize a *non*-cohort model, meaning students will not necessarily be working with the same classmates through the duration of their studies, may not find the interventions proposed in Chapter Three as relevant to their setting. The strategies

utilized to build community may differ between locked cohort and non-cohort. This should be considered when reviewing this research.

Review of Related Literature

Learners' sense of community plays an important role in their ultimate success or failure, both academically and socially, as these communities provide support for students through their studies and work to combat feelings of isolation which may emerge from the online modality (McElrath & McDowell, 2008; McInnerney & Roberts, 2004; Rovai, 2002a; Swan, 2002; Rovai & Wighting, 2005; see also Tinto, 1997). To explore the impact of learner-learner interactions on the sense of community in an online doctoral degree program, this researcher reviewed literature on students' sense of community in online education with a particular focus on student-to-student interactions. Through the review of existing literature, Brown's (2001) three stages of community development in online education and Rovai's (2002b) Classroom Community Scale emerged as a blended framework through which to understand how students build and join communities which contribute positively to their sense of community in an online doctoral degree program, and how to measure the general strength or weakness of those communities.

Community Development in Online Education: A Theoretical Framework

Brown's (2001) three stages of community development provides a useful framework by which to explore the process of developing communities in online graduate degree programs. This framework, which was developed through examination of an online, asynchronous doctorate-level degree program, can be adapted to explore learner-learner communities in a mixed synchronous-asynchronous doctoral degree program,

which is the focus of this study. Brown's (2001) first stage of community development is *making friends*; this is an important stage through which students develop relationships based on location or academic background, commitment or motivation, or similarities of circumstances. However, this first stage can be achieved solely through course requirements for students to interact with one another, meaning it serves as a primary, albeit relatively weak force in developing a sense of community. Brown's (2001) second stage is *community acceptance*, which occurs when students participate in thoughtful discussions on important or difficult subject matters. Students indicated that these interactions served as a kind of "membership card" for learner communities (Brown, 2001, p. 24). Brown's (2001) third and final stage is *camaraderie*, which is achieved after intense or long-term personal association with classmates. This camaraderie was generally found among students who had been in multiple courses together and communicated outside of the formal classroom setting though telephone, e-mail, or in-person (p. 24). Each level of community involves a greater level of engagement between learners (see Figure 1).

Figure 1

Brown's (2001) Process of Community Building
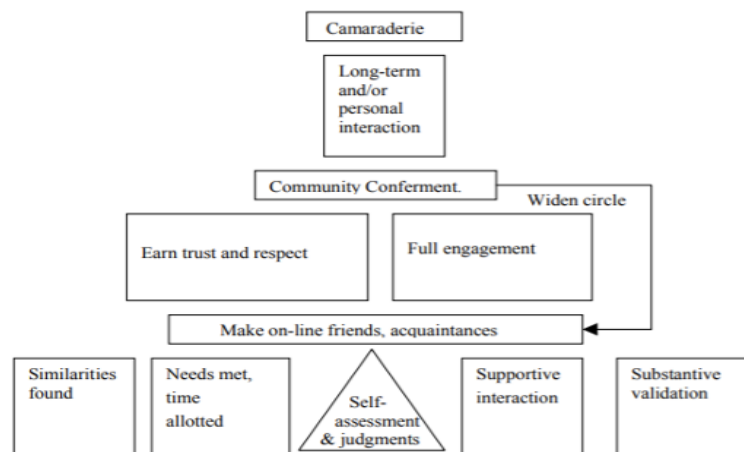
In addition to utilizing Brown's framework for this research, measuring sense of community among participants was initiated through Rovai's (2002b) Classroom Community Scale. The scale is comprised of 20 Likert survey questions which capture a student's perception of connectedness and perceived learning in the classroom (see Appendix B). Utilizing this measurement helped establish a baseline student perception of community in the program prior to the implementation of interventions. Following the future implementation of intervention strategies identified in Chapter Three, this survey can be subsequently readministered to measure whether the strategies implemented made an impact. The action plan can be revisited and modified depending on future CCS results, which should indicate the impact of strategies by comparing new CCS scores to the pre-intervention scores collected for this research and presented in Chapter Two.

Related Research

Sense of Community in Online Education

Existing literature can help establish meaningful definitions related to the study of online learning communities. Conrad (2005) defines *community* as "a general sense of connection, belonging, and comfort that develops over time among members of a group who share a purpose or commitment to a common goal" (p. 2). McMillan and Chavis (1986) define a *sense of community* as "a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment together" (p. 9). Learners who engage with a supportive community in graduate education have a higher probability of success in the program (Bain et al., 2010). Researching how students develop a sense of community, Brown (2001) described the process by which online students become part of

a community in three stages: first, making friends; second, community conferment; and third, camaraderie (see Figure A1; see also McElrath & McDowell, 2008).

Both synchronous and asynchronous interactions can help grow a sense of community among online learners, with each providing students a different avenue to engage with one another (McInnerney & Roberts, 2004). The role of technology in fostering a sense of community in online graduate education has also been examined; Martin, Parker, and Deale (2012) found that the use of synchronous technologies, such as live interactions utilizing platforms like Zoom or Google Hangouts, can increase the level of interaction between students and instructors, leading to a stronger sense of community. Through live synchronous meetings for weekly classes—in addition to group work, peer support networks, and socializing—students experience a deeper sense of community than they do through asynchronous engagement (Fadde & Vu, 2014). In asynchronous online courses, these live web-based meetings provide additional opportunities for students to interact with one another, forming deeper and more meaningful connections that help establish their peers as *real* and *there* (Lowenthal et al., 2017; see also Trespalacios & Uribe-Florez, 2020).

Developing a sense of community is an essential element of effective online learning environments, as these communities, and the learner interactions they enable, provide important support and structure for students; conversely, students who do not develop a positive sense of community may struggle with certain aspects of online learning (Brown, 2001; Ouzts, 2004; Rovai, 2002a; Shea, 2001; Shea et al., 2005). When students feel that they are a part of a supportive and inclusive community, they are more likely to be engaged in their coursework and to persevere through challenges (Rovai,

2002a; see also Tinto, 1997). This increased motivation can lead to improved academic performance including higher rates of student success and retention (Conrad, 2005; Angelino et al., 2007). Whether through asynchronous or synchronous interaction, literature has established the impact a positive sense of community can have on student success in online graduate education.

Learner-Learner Interactions in Online Education

Moore (1989) helped establish three kinds of interactivity that emerge in virtual distance education: learner-*content* interaction, learner-*instructor* interaction, and learner-*learner* interaction. In exploring the sense of community that emerges in an online doctoral program, the particular focus for this research is on learner-learner interactions. These interactions in online graduate education play a crucial role in creating a collaborative and supportive learning environment (Conrad, 2005; McElrath & McDowell, 2008; Kurucay & Inan, 2017). As established in the earlier Justification of the Problem section, one of the key benefits of learner-learner interactions in the community building process is providing online students with opportunities to engage in collaborative learning where knowledge and perspectives can be shared among peers (Cundell & Sheepy, 2018; Shackelford & Maxwell, 2012). This type of interaction can enhance the learning experience and lead to a deeper understanding of course material, which is beneficial both to the university and to the student, as students are able to build on each other's perspectives and connect the material to their lived experiences.

Learner-learner interactions also provide opportunities for students to practice and develop their communication skills, as they are expected to effectively communicate their ideas and perspectives with their peers, regardless of the modality being utilized (Smyth,

2011; Castellanos-Reyes, 2021). Through collaboration and discussion, students can hone their interpersonal skills, improve their writing and speaking abilities, and develop the ability to effectively convey complex ideas and arguments (Castellanos-Reyes, 2021). Moreover, learner-learner interactions can also enhance the academic experience of students as they engage more deeply with course content when given the opportunity to interact with peers and apply lessons to their real-world contexts (Conrad, 2005; Castellanos-Reyes, 2021). This type of student interaction helps create a sense of community and belonging, as individuals can connect with peers and build relationships with those who share similar interests and goals (Brown, 2001; Shackelford and Maxwell, 2012).

Learner-learner interactions are often viewed by students as contributing greatly to their sense of community in online graduate degree programs, and as such, particular focus should be given toward encouraging high-value learner-learner interactions (Cundell & Sheepy, 2018; Shackelford & Maxwell, 2012; see also Moore, 1989). The establishment of these relationships helps students feel more comfortable in online discussions, improves their collaboration, and increases the amount of resource sharing (Conrad, 2005). Guilar and Loring (2008) found that informal communities are both "inevitable and desirable," so understanding their role in student learning is fundamental to the development of a successful online doctoral program (p. 34).

Conrad (2005) also found that learner-learner relationships were viewed by online graduate students as the most important element of their relationship to virtual learning, with one participant of the study saying online community development is "dependent upon emergent leaders [who are] also social leaders" (p. 15). Shackelford and Maxwell

(2012) found that certain learner-learner interactions such as introductions, collaborative

group projects, sharing personal experiences, and exchanging resources all contributed to

building a sense of community among students (see also McElrath & McDowell, 2008).

Stein et al. (2003) found that learners recognized when courses "required them to become

a community" due to a lack of structure in some online courses (p. 203). To this end,

instructor-learner interactions often play an important role in developing a sense of

community but they sometimes fall short, requiring learner-learner communities to step

in and serve as a substitute (Conrad, 2005; Stein et al., 2003). Conrad (2005) discussed

the "underground community" that emerged when instructors were absent in developing

a sense of community.

Moore (1989) notes that learner-learner interactions can also weaken a sense of

community when students view each other as competitors or critics. However, by

providing opportunities for students to connect with peers and collaborate on coursework,

or by providing additional opportunities for students to socialize outside of the academic

setting, online graduate program leaders can create a supportive and inclusive learning

environment that encourages student engagement.

Learner Isolation in Online Education

Students enrolled in an online degree program often experience isolation

(McInnerney & Roberts, 2004). Shaw and Polovina (1999) considered the issue of social

isolation among online students as "widely documented" (p. 22). Physical learner

isolation (Rovai & Wighting, 2005) and the lack of interaction between students (Carr,

2000) has contributed to problems with retention in online education (Phirangee, 2016;

see also Xu & Jaggars, 2011). Previous research has found that students in online

educational settings viewed the risk of isolation as a specific challenge they will face (Nyysti & Walters, 2018; Park, 2008).

Learner isolation can be driven by different factors, including anxiety around the technology utilized to deliver course content and interact with peers, difficulty in engaging in direct and meaningful learner-learner interactions, and a lack of support from program faculty and staff, who may still be adapting to the emerging online modality (Gillett-Swan, 2017; Nyysti & Walters, 2018). Given the correlation between student isolation and retention issues in online education (Angelino et al., 2007; Rovai & Wighting, 2005; see also Xu & Jaggars, 2011) it is important for leaders in education to intentionally design online degree programs to enable learner-learner interactions which contribute positively to a sense of community (Phirangee, 2016; Rovai & Wighting, 2005; Shackelford & Maxwell, 2012; Smyth, 2011).

Literature Review Conclusion

Utilizing a blended framework of Brown's (2001) three stages of community development and Rovai's (2002b) Classroom Community Scale, this research seeks to better understand the power of learner-learner interactions to contribute to (or detract from) a strong sense of community among online students in an effort to combat isolation and improve the student experience within the setting. The review of existing literature established the importance of examining the relationship between learner-learner interactions, sense of community, and isolation. This study seeks to better understand this interconnected relationship by engaging in participatory research with doctoral students who are actively enrolled in an online program while also engaging in their own scholarly action-based research. The positionality of these online EdD students as future leaders in

education and beyond will generate a particularly rich understanding of this phenomenon and assist in developing meaningful interventions through which to improve sense of community, and combat isolation, by empowering learner-learner interactions within the online modality.

Action Research Design and Methods

The study was conducted within a framework of participatory action research (Creswell, 2018). Given the study's particular focus on learner-learner interactions and their impact on sense of community, as well as the researcher's positionality as a student in an online doctoral program, the research looks to empower participants to both better understand their lived experiences while also extracting valuable insight through their engagement with peers, their challenges as students in an online program, and their ideas for improving the experience for current and future online students. Action research strives to improve the research setting by ultimately driving change in collaboration with the participants and the organization being studied (Stringer and Aragón, 2020). An action research design is appropriate given the researcher's positionality and desire to drive meaningful change by improving the sense of community in an online doctoral program through learner-learner interactions, which can be best achieved through the development of an action plan and intervention strategy (see Chapter Three).

Positioning Study as Action Research

Action research allows for the researcher to study a setting with which they are uniquely familiar in order to implement improvement strategies following analysis of the data collected (Creswell, 2018). Participatory action research seeks to empower individuals within the study setting by seeking their direct contribution to interventions

proposed, leading to a more democratic-style of change that is driven from the bottom-up rather than the top-down (Stringer and Aragón, 2020). This will allow participants, who are current students in an online doctoral program, to drive intervention strategies which improves the program for their cohort and future cohorts. Since launching the online doctoral degree offering, program leadership within the research setting has been receptive to making improvements requested by those enrolled in the program, offering the opportunity for this research and subsequent action plan to be seriously considered within the setting. Furthermore, in examining a doctoral-level program focusing on organizational leadership, the researcher aimed to extract valuable insight from students who are aspiring scholar-practitioners in an effort to identify areas of present success and areas in need of future improvement.

This study utilizes a phenomenological approach to data collection and analysis. Creswell (2018) described a phenomenological study as a type of qualitative research which seeks to understand the lived experiences of individuals and how they derive meaning from a particular concept or phenomenon. This approach, along with the participatory action research paradigm and administering of the Classroom Community Scale survey, will allow for deep and rich data collection to inform meaningful intervention strategies through a well-informed action plan. The data collected and analyzed includes participants' feelings, beliefs, attitudes, and experiences, as well as aspects of their individual identity which may influence how they experience a sense of community within their online program. Interview questions will relate to individual understandings of sense of community and what activities students have participated in,

or wish they had an opportunity to participate in, which helped them form community with their peers (see Appendix C).

Study Setting and Participants

The setting for this study is an online Doctor of Education (EdD) program in Leadership for Organizations at a private, religiously affiliated Midwestern research university (the University). The University serves over 12,000 students, including both undergraduate and graduate populations. As of July 2023, the online EdD program had over 250 students enrolled, 70% identifying as female and 30% identifying as male, with 46% of students identifying as members of an underrepresented minority group which includes Hispanic/Latinos, African Americans, Native Americans, Native Hawaiian/Pacific Islanders, and those of two or more races. The participants of this research were enrolled students in the University's online EdD program who volunteered through their completion of the Classroom Community Scale survey. The doctoral degree program, which is run in partnership with a for-profit online program manager, is nine terms over three years and follows a locked cohort model.

Researcher Role and Positionality

Metaphor is at the heart of research. Using rich and detailed stories to better understand the world around us, qualitative research can build upon a quantitative foundation to explore the unique and seemingly infinite cultures and identities that forge together to create our society. There is a lesson in every story, however modest or revolutionary; it is the work of researchers to compile these stories and distill their lessons, extrapolate meaningful data, and inform future action.

My epistemological perspective is empiricism, believing that knowledge is derived from our individual experiences. This opens the door to the idea of *knowledges*—that is, the idea of multiple valid understandings of the same base "reality" (Hesse-Biber, 2016). Deciphering these experiences and working to share the lessons from them is difficult and time-consuming work, which requires commitment from the participants of the research as well as the researchers themselves. Inherently, this belief acknowledges the role the researcher plays in their own research: that it is impossible to be completely objective, but through reflexivity we can strive to ensure rigor and trustworthiness in the work completed (Hesse-Biber, 2016).

Along with my empiricist perspective, I primarily identify with the postmodernist paradigm, believing that each of us experiences reality differently (Hesse-Biber, 2016). I agree with the postmodernist belief that dominant cultures in our society oppress others in order to maintain political, social, and economic power and wealth which has been cultivated over hundreds of years (Hesse-Biber, 2016). These diverging but equally valid realities are shaped by our individual social, political, cultural, economic, gender, sexual orientation, and other differentiating values and identities, which are informed by language and symbols we experience in everyday life (Hatch, 2018). From this perspective, I believe our realities, individual and shared, are ever-shifting based on our lived experiences.

With respect to my personal positionality as a researcher, I am a queer White male living in the Northeast region of the United States enrolled in an online EdD program. My positionality as a researcher is informed by my individual and cultural background, having been born in the United States in the 1990s, at the dawn of the

internet era, into a large extended Irish Catholic family in Binghamton, New York. As I have unpacked my own upbringing, I have come to believe that we all experience the world differently, influenced and informed by our personal experiences which warp our understanding of the world, both positively and negatively. I find this nuanced approach to experiencing reality as *richer* and *truer* than the idea of a single objective reality.

Through experience and education, whether formal or informal, we can supplement these foundational elements of our positionality and expand our understanding of the world. These crucial and horizon-expanding experiential lessons may be lived or witnessed. When I was still in high school, for example, my Mom attended an online graduate degree program in the mid-2000s, completing her Master's degree in nursing. While the experience was positive for her and led to career advancement, it also created financial difficulties for my family. This formative experience with online education, lived through the experience of my Mom and its impact on our family, motivated me to explore the ways in which cost serves as a prohibitive factor to pursuing an education, while also helping me understand how non-traditional students like my Mom could complete an advanced degree online while working full-time, raising children, and ultimately using the opportunity afforded by the program to find success, purpose, and career advancement. Finding ways to help students like my Mom succeed, with a particular focus on the social support found within informal learner-learner communities, is a very personal connection to this research.

Ethical and Political Considerations

For this study, I examined how learner-learner interactions may impact sense of community in an online EdD program at a private, religiously affiliated Midwestern

research university managed in partnership with a for-profit online program manager (OPM). Given my positionality to the research setting there are conflicts of interest to be noted. First, while conducting the research, I was a student in the program of study. To that end, I was navigating the very question I was hoping to better understand. Second, while conducting the research, I was employed by an OPM that maintained a contract with the University where this study was focused; in exchange for providing marketing, technology, and other support services to several online graduate degree programs at the University, the OPM receives a percentage tuition collected by the University for each enrolled student in those partnership degree programs. My employment at this OPM, which concluded prior to the publication of this research, included a tuition benefit and support structure which allowed me to pursue my doctorate and conduct this research while working full-time. My research was conducted independent of my employment by the OPM and the perspective of this paper is one of a student-researcher, not that of an employee. No data or student information was collected from the online program manager which employed me. However, my employment did provide me with additional insight which may not be available to a typical researcher. Throughout this research, I worked diligently to be mindful of those conflicts and affiliations to counteract any biases and to ensure the interventions proposed are based on the results of the research conducted and existing literature. While my conflicts of interest should be noted, my positionality also works as a benefit to better understand the problem and propose an intervention based on this action research.

The online Collaborative Institutional Training Initiative (CITI) program for researchers was completed and approval from the University's Institutional Review

Board (IRB) was received prior to the collection of any data from participants. All rules and regulations outlined by IRB were followed during this research. Following an interview script (see Appendix D), rapport was established with participants by explaining the purpose of the research, their contributions to the research, their ability to provide feedback and clarifications throughout the research, and finally to obtain verbal consent to begin recording the interview and collecting data (Hesse-Biber, 2017). Interviews were conducted over Zoom in a private setting to ensure participant privacy. Recordings will be saved in a secured Google Drive folder for three years following the completion of the transcription process, including an opportunity for member checking (Hesse-Biber, 2017). Additionally, participants completed an informed consent form and had an opportunity to review their interview transcripts to ensure accuracy.

Data Collection Methods

Rovai's (2002b) Classroom Community Scale was sent to current students in the program to establish a baseline metric to better understand sense of community in the program. At the end of the survey, students had an opportunity to express interest in participating in a thirty-to-sixty-minute semi-structured interview. Interview questions were adapted from Watters (2015) with changes informed by the literature review and researcher's positionality. These questions were presented to and validated by three academic peers with expertise in the subject area. This peer review relied on a self-developed validation rubric in an effort to further establish interrater reliability, thereby improving the validity and reliability of questions posed to participants. Interviews were conducted with students to gain deeper insight into the problem of practice and lived experiences of students in the program. The semi-structured interview elicited rich

feedback from participants about their experiences in the program with a particular focus on learner-learner interactions and combating isolation. Prior to proposing an intervention, data were coded, and primary themes were extracted (Hesse-Biber, 2017). All data collected were stored in a secured Google Drive and retained for three years following the completion of the research.

Survey

Utilizing Google Forms, the Classroom Community Scale survey developed by Rovai (2002b) was sent to current EdD students in the University's online program (see Appendix B). This survey measured students' sense of community in the online doctoral program with subscales measuring *connectedness* and *learning*. Additionally, it should be noted that this survey can be used during future iterations of the action research to measure the impact of any strategies implemented to improve sense of community. Through the quasi-mixed methods approach, the survey scores serve as a measurement of sense of community within the program of study, and a benchmark through which to examine the impact of any future interventions utilized.

Interviews

Interviews were conducted using a semi-structured approach, with a set list of seven open-ended questions, but allowing for tangents which may be valuable to the research (Hesse-Biber, 2017; see Appendix C). These questions were adapted from Watters (2015) examination of graduate students' perceptions of sense of community and contributing factors with changes to better fit the setting and scope of this action research. An informed consent form and the interview questions were provided to the participants prior to the interview taking place. A script was used by the researcher to help further

establish validity and guide the interview to ensure informed consent and other

procedures were addressed with each participant, who was then given an opportunity to

ask questions (see Appendix D). The interviews were recorded on Zoom, each lasting

approximately thirty-to-sixty minutes. A transcript was automatically generated by Zoom

which was reviewed and corrected for accuracy by the researcher. Following the

transcription process, participants had an opportunity to review their responses to ensure

they were captured correctly.

Data Analysis Procedures

Survey

Rovai's Classroom Community assessment is comprised of 20 Likert-style

questions which measure the strength of a student's sense of community. Individual

scores were totaled and assessed based on the criteria outlined by Rovai (2002b). The

assessment goes to great lengths to establish validity and reliability using quantitative

research methods. Specifically, reliability analysis includes Cronbach's coefficient α used

to establish internal consistency characteristics of the scale (Rovai, 2002b). Following the

collection of survey data, reliability procedures were reproduced to confirm validity and

reliability within the sample collected for this research. This established a baseline metric

through which to understand sense of community in the program currently and measure

the impact of any interventions deployed in the future.

Interviews

The interviews were recorded and brief notes were taken by the researcher

throughout. At the completion of the interview, the conversation was transcribed by

Zoom, reviewed, edited, and confirmed for accuracy by the researcher. These transcripts

were used for data analysis by reviewing the conversation text and identifying themes that emerged across the interviews. A pseudonym was used to protect the identity of the participants. The inductive coding process began in earnest by identifying keywords and shared themes and allowing for further development during the reflexive process. The researcher reviewed each transcript multiple times to better understand the cross-functional themes that emerged. These themes were identified through a reflexive and iterative coding process (Hesse-Biber, 2017). Additionally, memos consisting of the researcher's notes from the interviews, journals kept throughout the research, and notes from the literature review were used in data analysis to identify themes and to assist with the coding process.

Trustworthiness

Dependability

The researcher established dependability for this study by maintaining an audit trail of notes, transcripts, memos, and journals (Hesse-Biber, 2017). Additionally, as this research was developed, there were several opportunities to have the design and a draft of the analysis reviewed by peers for feedback and improvement, including the interview questions, methods, and analysis. Research participants were given an opportunity to member check data collected to ensure interpretation matched their intentions and experiences.

Confirmability

Following the collection of data, the literature review process, in identifying themes and key concepts, helped establish confirmability (Hesse-Biber, 2017). Additionally, the reflexive and iterative processes used to develop and refine the coding

for qualitative analysis, along with triangulation of data through multiple participants and interviews, furthered the confirmability of this research (Shenton, 2004). Additionally, fellow researchers were consulted to further ensure the confirmability of findings. Finally, the transcripts, memos, observation notes all serve as an audit trail which helps establish the confirmability of findings.

Transferability

While the sample size for this research was relatively small, it nevertheless allowed for deeper insight into the phenomenon of interest. While this research may not be applicable to general settings, it helps explain the lived experiences of participants through thick and rich descriptions. This allows the research to be transferred to settings which are similar to the setting of this study: an online doctoral degree program which follows a locked cohort model. In particular, leaders seeking to utilize this research for their setting would benefit from examining the rich and detailed descriptions outlined by participants in Chapter Two and how they connect to the strategies identified in Chapter Three.

Credibility

Participants were interviewed on a voluntary basis and given the opportunity to check and confirm data collected related to their interviews, thereby confirming the credibility of the statements extracted to develop themes for analysis (Shenton, 2004). To that end, coding to identify patterns and key points were used to triangulate data across participants, furthering the credibility of the research (Hesse-Biber, 2017).

Conclusion

As detailed in this chapter, the purpose of this study was to examine the impact of learner-learner interactions on the sense of community among students in an online EdD program. Because of the current state of this problem, focused research which examines the phenomena and offers an action plan, has the potential to improve the future state of online graduate education. Therefore, this study was conducted with the aim of better understanding the importance of learner-learner interactions in establishing a sense of community and to provide an action plan which strengthens these interactions, with the ultimate goal of improving the experience of students enrolled in the online program of study.

CHAPTER TWO

RESULTS OF RESEARCH

The purpose of this action research study was to explore students' perceptions of the impact of learner-learner interactions on sense of community within their online doctoral program. This chapter presents the results of the quantitative and qualitative data collected through the quasi-mixed methods approach utilized for this study. Participants for this research were recruited in April 2023. Doctoral students enrolled in the research setting were invited via email to complete the Classroom Community Scale survey (see Appendix B). The CCS survey provides a metric through which to measure the strength of community within an online classroom or program, with an additional focus on both learning and connectedness. At the end of the survey, participants could indicate their willingness to participate in a thirty-to-sixty-minute Zoom interview for the qualitative data collection.

A total of 46 students completed the survey, and of that group, 20 were interviewed. The self-identified demographic information of participants (e.g., age, gender, ethnicity, and prior experience with online coursework) is presented in Table 1. Following an analysis of the quantitative data, key themes that emerged from the qualitative interviews are described and explored in this chapter. Finally, this chapter ends with a brief overview of the action plan proposed to further strengthen sense of community within the program by fostering learner-learner interactions and empowering students. This action plan is further explored in Chapter Three.

Table 1

Study Participant Demographics

	Survey respondents (n=46)	Interview participants (n=20)
Age		
25-34	21.7%	15%
35-44	30.4%	40%
45-60	44.5%	45%
Over 60	4.3%	
Gender		
Female	65.2%	45%
Male	32.6%	50%
Nonbinary, Agender	2.2%	5%
Ethnicity		
African American or Black	26.1%	5%
Caucasian or White	58.7%	75%
Hispanic	4.3%	5%
Other *	8.8%	10%
Prefer not to say	2.2%	5%
Prior experience with college-level online coursework?		
Yes	63%	70%
No	37%	30%

* Asian – Eastern; Middle-eastern decent; Native American; or Mixed race

Reliability

For the quantitative data analysis, Cronbach's coefficient α, an internal consistency estimate of reliability, was calculated for the Classroom Community Scale and each of the two subscales. The Cronbach's coefficient α for the full Classroom Community Scale was .91, indicating excellent reliability (see Appendix E). The Cronbach's coefficient α for the connectedness subscale was .90, also indicating excellent reliability. The Cronbach's coefficient α for the learning subscale was .81, indicating good reliability. These tests were initially performed by Rovai (2002b, p. 206) and replicated by the researcher for this study. All noted values exceeded the standard threshold of .70 (Taber, 2017) indicating a high internal consistency and reliability of the instrument (Rovai, 2002b).

Credibility

Credibility was established using several strategies. First, multiple participants were interviewed, and their perspectives explored, both individually and thematically, establishing triangulation by validating and cross-checking findings across participants. Second, member checking was conducted, and preliminary findings were shared with the participants, ensuring that their perspectives were accurately represented in the research. Finally, feedback and insights were sought from qualified researchers to refine researcher interpretations of data collected. These techniques enhanced the credibility of this research and worked to ensure that the findings are reliable and representative of the participants' experiences.

Transferability

To enhance the transferability of this research, a detailed and transparent account of the research methodology, data collection, and analysis procedures has been provided. By offering descriptions of the research setting, characteristics of the participants, and the broader research context, readers can assess the applicability of findings to their individual settings. Readers should consider the similarities and differences between the study's context and their own context to make informed decisions about the transferability of results. Finally, an audit trail of the research process has been documented thoroughly, making it easier for others to replicate and assess the study's potential transferability to different contexts.

Trustworthiness

Trustworthiness was ensured through rigor and credibility in the study. In addition to establishing reliability, credibility, and transferability, a focus was given to dependability and confirmability. Dependability was enhanced through detailed record-keeping throughout the research process, documenting every step of data collection and analysis to ensure consistency and stability. This documentation safeguards against external influences or subjective biases that could affect results (Creswell, 2018). Regarding confirmability, and in an effort to maintain objectivity and neutrality when interpreting data collected and analyzed, reflexivity was practiced through continued reflection on personal positionality and potential biases related to the research. By adhering to these principles and maintaining transparent practices, trustworthiness in this research has been pursued rigorously in an effort to instill confidence in readers about the validity and integrity of the findings presented.

Quantitative Results

For this study, quantitative data were collected through voluntary administration of the Classroom Community Scale developed by Rovai (2002b) to enrolled students in the University's online doctoral degree program. This section outlines the results of the survey data collected and a brief discussion of the findings.

Classroom Community Scale Descriptive Statistics

Table 2 below shows the descriptive statistics for the CCS results, as well as the results of each subscale measure, by total participants (see Appendix E). Examining the data by individual demographic groups, the classroom community means for Female, Male, and Nonbinary/Agender students were 58.33, 62.40, and 71 respectively (S.D.s for Male and Female = 11.48 and 9.56, respectively; see Appendix E2). The classroom community means for Caucasian or White, African American or Black, Hispanic, and Other or Prefer not to say are 60.07, 62.58, 50, and 61, respectively (S.D.s = 11.62, 8.44, 1.41, and 15.52, respectively; see Appendix E3).

These results provide an overall snapshot of the classroom community which exists in the program of study, along with the subscale measurements of connectedness and learning. For the purposes of this study, classroom community refers to the sense of community which has been established in the program of study, as measured by Rovai's (2002b) classroom community scale. Following implementation of intervention strategies, these data can be used by the program of study as a benchmark for examining the effect size by conducting a post-test comparison.

Table 2

Classroom Community Scale Results and Descriptive Statistics

	Min	Max	*M*	SE	SD
Total participants (n=46)					
Classroom community	26	77	59.95	1.61	10.95
Connectedness	12	40	29.80	0.97	6.58
Learning	14	39	30.13	0.80	5.43

Classroom Community Findings

An independent t-test was conducted to compare classroom community for male and female respondents, and no significant difference in classroom community was found between these two groups, $t(43) = -1.18$, $P = .70$ (see Appendix E4). Thus, the hypothesis that classroom community differs by gender expression is rejected and the null hypothesis that there is no significant difference between groups is accepted. In examining whether past experience with online college-level coursework impacted the respondents classroom community score, Levene's test for equality of variance revealed significant variation between groups (past experience with online coursework versus no past experience with online coursework) with a *p* value $< .05$, $t(44) = -0.14$, $p = .04$ (see Appendix E5). However, it is common for researchers to ignore significant variation if the *p* value is greater than .01, especially when there is a relatively small sample size (Sullivan & Feinn, 2012). A one-way ANOVA was carried out to determine if classroom community differed by age [$F(3, 42) = .19$, $p = 0.90$] or ethnicity [$F(8, 37) = 1.24$, $p = 0.30$] and, with no significant variation found between these respective groups, the null

hypothesis that there is no significant difference is accepted for each (see Appendix E6; Appendix E7).

The results of the CCS survey showed an overall positive view among participants of their sense of community within the program's online doctoral degree offering, with an average CCS classroom community score of nearly 60 points (out of a possible 80), with both the *learning* and *connectedness* subcategories averaging around 30 points (out of a possible 40). The results also showed there was no significant variation between demographic groups. Moving forward, the CCS scores can be used to measure the impact of future interventions aimed at further improving sense of community within the program, which are outlined at the end of this chapter and discussed further in Chapter Three.

Qualitative Results

This section presents the qualitative findings of interviews conducted with students regarding their lived experiences of engaging in learner-learner interactions in their online program, and how those interactions impacted their sense of community. Through the interview process and qualitative data analysis, this research aimed to identify themes that emerged across participants' varied experiences to shed meaningful light on the impact of learner-learner interactions on sense of community within the research setting. After completing the Classroom Community Scale survey, participants were asked if they would like to participate in an interview for the research study. Of the 46 students who completed the survey, 20 participants were interviewed. The demographic information for the 20 interview participants (e.g., gender, age, ethnicity, term number, and assigned pseudonym) is presented in Table 3 below.

Table 3

Interview Participants

Pseudonym	Gender	Age	Ethnicity	At time of interview, entering term
Bernard	Male	35 - 44	Caucasian or White	2
Ann	Female	45 - 60	Caucasian or White	2
Danny	Male	45 - 60	Asian - Eastern	2
Mary	Female	45 - 60	Caucasian or White	3
Jessie	Nonbinary, Agender	25 - 34	Caucasian or White	3
Joe	Male	35 - 44	Caucasian or White	4
Sarah	Female	35 - 44	Caucasian or White	4
Richard	Male	35 - 44	Caucasian or White	4
John	Male	35 - 44	Caucasian or White	6
Paul	Male	45 - 60	Prefer not to say	6
Justin	Male	25 - 34	Native American	6
Tim	Male	45 - 60	Caucasian or White	6
Robert	Male	45 - 60	Caucasian or White	7
Betsy	Female	35 - 44	Caucasian or White	8
Linda	Female	45 - 60	African American	8
Jamila	Female	35 - 44	Caucasian or White	8
Teresa	Female	45 - 60	Hispanic	8
Christine	Female	35 - 44	Caucasian or White	8
Michelle	Female	25 - 34	Caucasian or White	9
William	Male	45 - 60	Caucasian or White	Graduating

Readers should note that there was an overrepresentation of White or Caucasian students, and an underrepresentation of African American or Black students, relative both to the demographics of the survey participants as well as the demographics of the broader student population within the research setting. This should be considered when examining the data, extrapolating findings, and proposing interventions, particularly as these factors relate to the potential impact of race and ethnicity on the student experience, both academically and socially.

Qualitative Findings and Discussion

The qualitative analysis revealed four prominent themes that encapsulated participants' experiences with learner-learner interactions in the online doctoral degree program: belonging, overcoming, empowering, and camaraderie. These themes provide valuable insight into the power of learner-learner interactions and their role in shaping the sense of community in an online learning environment. The key themes and subthemes are outlined in Table 4 below, along with the *realization* that theme inspired for many of the participants interviewed. Following Table 4 is a discussion of each individual theme.

Table 4

Key Themes and Sub-Themes

Theme	Sub-Themes	Realization
1. Belonging	• Initial Community Building • Defeating Imposter Syndrome	*I belong.*
2. Overcoming	• Shared Academic Struggle • Personal & Institutional Hurdles	*I can do this.*
3. Empowerment	• Learning from Different Perspectives • Social Justice	*I'm valued and I value others.*
4. Camaraderie	• Personal Friendships • Long-term Perseverance	*I'm not alone; we've got this.*

Emergent Themes

Theme 1: Belonging

The first of the four themes identified is *belonging*. Through data collection and analysis, this theme emerged as a foundational requirement toward seeking, creating, or participating in learner-learner interactions which contribute positively toward students' sense of community within their online doctoral degree program. In order for the community which develops to have meaning for the student, in the long term, this sense of belonging is the first, and perhaps the most important element required for a sustained positive sense of community to emerge within the virtual setting. Without a sense of belonging being established—a general feeling that the member is welcome within the group or subgroup they are joining—it is difficult for the individual to continue onto the later community-building steps of *empowerment* and *camaraderie*, although these later steps may further contribute to a student's sense of belonging. The following quote from Mary, who was entering her third term at the time of our interview, captures the process

through which a student begins to feel *belonging* within a community setting and how that feeling is essential to moving forward with success and determination:

> [The] first term I kind of stayed to myself because I didn't know enough about [my classmates], and now everybody's kind of realized that we're not all as smart as we thought we were, and the panic sets in, right? 'I don't know how to do this or that,' and so people are starting to feel more, you know, more like themselves. The first term it was hard to figure out who people really were, because the personal interactions were so limited, even though there were breakout rooms. And I think we were all just so nervous about getting it right that it didn't feel natural to talk to people, or, you know, open up to anybody, so that hesitation was a huge barrier.

This sense of belonging is likely expedited in a program which embraces a locked cohort model, which allows students to move through the program over the course of years with the same classmates, with the exception of students who may leave or join a cohort due to personal or academic circumstances. The value of the cohort model in establishing a sense of belonging was further captured by John, who was entering his sixth term, as he reflected on forming those crucial initial relationships:

> I can't do this alone. Those very first couple of classes you get put in the small groups where we had to introduce each other, and that's when I first met [my friend in the program] who I've been in every class together [since]. So me and [her] linked up and we would talk every class, and then I would start talking to [another] person, and she would start talking to [another] person, and then they would get folded in, and it just kind of grew.

Learner-learner interactions are central to the development of a sense of belonging, as it is through these interactions that students begin to create community with their classmates, from the first class of the first term all the way through graduation from the program. "It's shocking to me the amount of community that can be created in a wholly online environment," reflected Paul, who was entering his sixth term at the time of our interview. In the online setting, the Zoom breakout rooms emerged as an important virtual gathering place for students to talk candidly. Danny, who was entering his second term, reflected on the value of these breakout rooms:

> A lot of those bonds start, I think, in the [Zoom] breakout rooms. Because you get a lot of candor in the breakout rooms. And then the group assignments you're forced together, and everyone for the most part [is] really motivated. They're interested in doing well. So it's always a positive experience. Everybody wants to pull their share of the weight, while also trying to meet their occupational requirements and the conflicts in their schedule. A lot of the positive discussions have occurred in the breakout rooms where people just sort of maybe unfiltered themselves and say, 'yeah, I'm having trouble with this, I'm having trouble with that,' or you can talk about some of the more personal things that you may not want to in a bigger group.

Belonging is a required prerequisite for students, particularly in the online setting where physical isolation may be a barrier to establishing a sense of belonging, to build a sustainable and supportive network of classmates who uniquely understand the challenges and stressors all, or most, members of the cohort are experiencing. Teresa, who was entering her eighth term, reflected:

I just go back to my very first class. It was rather intimidating. I haven't had the

experience of [virtual] education so that was something that I needed to kind of get

acclimated to. Normally I'm a people person. I'm used to people being around me, and

that's how I work. So it was very different, and I will say that I felt—I actually felt

comfortable with the fact that I wasn't alone. We had breakout groups, and in those

breakout groups, while there was a particular topic that we needed to discuss we

would kind of scale away and be human beings and say, 'hey, how are things working

out for you? Do you see what's going on here?' So it really helped me in terms of my

ease and my comfort, and recognizing I wasn't alone.

Finally, belonging, as encouraged by learner-learner interactions, creates a sense of pride

in being part of a collective identity within the program and works to combat a sense of

imposter syndrome. Jamila, who was entering her eighth term at the time of our

interview, said that she appreciated personally knowing the classmates she's spending

time with, that she feels seen, and that her classmates realize that she's a person and "not

just a picture on a screen." Jessie, who was entering their third term, reflected that many

of their classmates "are really affirming of the work that it took to get here, the fact that

you would have to be qualified to be here, which really pushes back on any insecurity or

sense of imposter syndrome that people might feel." Betsy, who was entering her eighth

term as well, summarized the feelings expressed by several participants, saying:

I have a massive, massive, massive feeling of imposter syndrome. I feel like I'm

not smart enough to be in this program. I feel like I don't belong in this program.

But then interacting [...] with other students in other classes and in breakout

rooms, I'm like, "you know what I actually am pretty smart, I actually do belong

here." [...] Just getting to know them and the other classmates has turned [my perspective] around.

Theme 2: Overcoming

The second of the four themes identified is *overcoming*. Once belonging is established, or begins to be established, within an individual or community, the process of overcoming can begin. This process begins when the student becomes confident that they can honestly accomplish an academic goal, such as completing a difficult assignment or passing their classes, despite the stress and shared challenges they and their cohort face during their studies. It is possible for an individual to experience some level of both belonging and overcoming *without* the support of learner-learner interactions or a positive sense of community, however the active presence of communal support and fraternity appear to accelerate feelings of both belonging and overcoming. On this point, Teresa identified how an individual without a learner-learner support network may struggle:

> A lot of folks are working on their own. Quite frankly it's a difficult work-life balance. But in order to succeed in this program, you have to have that balance, you have to be able to have the supports, and if you don't, a lot of folks probably will look at dropping off and just it may not be worth their time or their energy.

The first participant interviewed for this research, John, summarized this crucial finding: "If it wasn't for the connection with my friends, and even the people who I would consider friend-adjacent, if it wasn't for the ability to talk to people and kind of explain how I'm seeing things, I wouldn't have lasted." This was echoed by Christine, who also

spoke about the value of connectedness through learner-learner interactions in overcoming shared challenges:

> The shared experience, I think, makes us feel connected. Specifically the shared
>
> challenges, because it is a difficult program. [For example], the quantitative class
>
> was very difficult for me. [...] Going through difficult things together, and
>
> problem solving and coming out on the other side is definitely [a] bonding
>
> [experience]. And then again, I always go back to the stories: hearing about
>
> people's stories and experiences. This is always what builds the sense of
>
> community.

Throughout the literature review and research interviews, the important contributions of learner-learner interactions toward creating a positive sense of community in the online setting was made abundantly clear. For example, Stein et al. (2003) found that learners recognize when courses "[require] them to become a community" due to a lack of structure (p. 203); while instructor-learner relationships often play an important role in developing a sense of community, they sometimes fall short and learner-learner communities serve as a substitute (see also Conrad, 2005). Conrad (2005) also discussed the "underground community" that emerges when instructors fell short in developing a positive sense of community within their virtual classroom.

The importance of underground community, though focused on the possible failure of the *institution* to establish community rather than her instructors, was highlighted by Betsy, who shared that she didn't feel connected to the University, despite feeling "a sense of belonging, a sense of connectedness to the people in the program, including the professors." This feeling of connectedness to classmates but a disconnectedness toward

the University was shared by other participants, including Michelle, who elaborated further:

I would say I feel very connected to my classmates in the program. But I don't feel connected to the University, especially because my first time when we were supposed to go to [campus] and ended up being virtual. So I've never even been there. So my first time going there will be this summer when I'm presenting. So I don't really feel connected to the University really at all. I don't even know what's happening there.

Another participant, John, talked about how important learner-learner interactions were in the first term, particularly as it relates to the value of shared experiences and challenges, and of ultimately persevering despite these difficult factors:

The shared experiences helped me feel connected to my classmates. You know, we've all gone through our first term as doctoral students, and we came [into the program] all together, not really knowing what this experience was going to be like, and most of us made it through the first term. And that feels like a really cool achievement, and the fact that you can say, 'our cohort, we did this together. We got through it,' you know? So, I think that that shared experience of coming in together, adjusting to doctoral studies, and then, you know, experiencing the final assignments together, the research proposals, and [first term papers] — you know, getting through all of that.

Linda shared that the sentiment of being overwhelmed was common within her cohort. Through learner-learner interactions, often facilitated by instructors and faculty members, this feeling of being overwhelmed could be overcome:

One time, one of the professors asked us who in this class has thought about

dropping, you know, quitting. And most of us raised our hands. You know

somebody else. You can do it. Everybody has those negative thoughts every now

and then. If I was to say, "you know what, I just can't do it," I would get messages

from people saying, "No, you've come this far. Why would you stop now?" We

support each other.

It is collaborative problem-solving, socializing, and shared experiences—particularly

shared challenges—which contribute to a positive experience through the difficult

process of *overcoming*. A challenge, be it personal or academic, presents itself to an

individual or community, and is then confronted and navigated. What is considered to be

a challenge often differs from student to student, but support and cooperation are

valuable tools for overcoming these challenges regardless of their nature. Overcoming,

therefore, is established when the individual or community perseveres *despite*

encountering obstacles and challenges.

Summarizing the process of overcoming, particularly overcoming shared academic

struggles and personal or institutional hurdles, Justin reflected on the encouragement and

support that exists within the program, and within their cohort:

That's crucial. My family's very supportive of this, and my [work] colleagues are

very supportive of me doing this program, but they're not in this program with

me. So they don't always know. "Oh, I've got four 20-page papers due at the same

time," and, "dear God, my brain can't handle one more lit review." But the people

in the cohort with me, they are in the exact same boat, and so it's like "we've got

this, we can do this, A-grades are great but nobody cares at the end. We've got

this. We've made it this far." And occasionally we threaten each other, you know, "if you drop out of this program, so help me, I'm flying to your hometown, I'm finding you, and I'm slapping you. So finish. I mean it."

Theme 3: Empowering

The combination of belonging and overcoming leads to the third theme identified: *empowering*. Empowerment is a transformative experience which emerges when certain circumstances or needs of students in the online program are met, allowing the individual to grow, sometimes significantly, in their understanding of their place in, and value to, their setting, culture, community, nation, and world. Through direct interaction with individuals of diverse backgrounds and viewpoints, this transformation provides students with the confidence needed to continue their journey as lifelong learners and leaders. Personal growth and self-discovery are enabled through learner-learner interactions in the online setting which, beyond a sense of belonging and overcoming, can promote the radical feeling within an individual or community of *empowerment*.

This powerful theme was identified throughout the interviews with learners in the program, particularly in students who were toward the end of their virtual academic journey. William, who was weeks away from graduation at the time of being interviewed for this research, summarized the shared goal many students have which contributes to experiencing meaningful empowerment, when he said of his cohort: "We're all in it for the same reason, you know—because we want to better ourselves, we all want to be that leader of change." The value of having students who feel empowered within an academic setting is clear: students often learn just as much from their classmates as they do their professors or the course content. In that way, students who feel empowered and

comfortable sharing their lived experiences, knowledge, and perspectives contribute to the overall learning experience of other students in the program. This sentiment was mentioned by a number of those interviewed, including Joe who shared that classmates "learn from each other" and that "sometimes we learn better from a person in the cohort than maybe the professor." Michelle echoed this sentiment, sharing her perspective on the value of learning from different backgrounds:

I think it is really valuable, because not everyone is in the education field, people come from very different backgrounds. When we are sharing out and we're talking about how it relates to what we're doing, it can be really nice to hear all those diverse perspectives that I don't necessarily have, or lived experiences that I haven't had.

Diversity of backgrounds can both contribute to and hinder the ability of students to feel empowered. For example, some students may feel more empowered by hearing from individuals with similar backgrounds as themselves, while others may feel a sense of empowerment learning from individuals with vastly different backgrounds. Justin spoke about this, and about how context is considered when communicating in the classroom:

A lot of us are very context driven, and so it's never just: "this is my answer." It's, "this is my answer, and here's why this is my answer. Here's the context that led me to that." And we flush these ideas out. And so we really get to know each other and each other's backgrounds really well and in detail. [...] We share a lot of very similar frustrations, and similar hopes and dreams and aspirations and reasons why we're in [the program]. And so we have that shared sense of purpose as well as the shared sense of frustration.

Although backgrounds and opinions may differ, the shared purpose and challenges seem to unite the cohort and contribute to the overall sense of belonging, overcoming, and empowerment experienced by those enrolled.

When discussing empowerment, specific consideration should be given to ensuring the empowerment of historically marginalized communities, such as people of color or individuals who identify with the LGBTQ+ community. However, these are not the only groups which benefit from a sense of empowerment. Indeed, individuals of backgrounds which fall in the realm of privilege may also benefit from experiencing a renewed sense of empowerment which allows them to escape the grasp of the larger system they have spent most of their lives upholding, knowingly or unknowingly. This is one of the extraordinary opportunities presented by online learning: the ability to connect individuals of infinite backgrounds and fostering dialogues of great social importance. In his interview, Bernard reflected on the unique ability of the online setting to bring together a diverse array of individuals from around the United States and beyond:

> As far as any class I've been involved with, whether it's undergraduate or graduate, this is probably the most diverse group I've been around, which is really interesting. I come from a rural part of the country, which is predominantly white [and] very conservative. Even when I went to undergraduate, it was still pretty homogenous. One of the things that did draw me to this program was the DEI and social justice perspective that's baked into it. It's been really good to have a diverse group. I can't think of any class where I've had classmates that are as diverse as this, in terms of both skin color and ethnicity, but also geography, or serving in the military, where you see so many different perspectives there. So it's

been kind of cool. I think the online nature of it really has helped. I probably

wouldn't have been in classes this diverse if I had gone somewhere locally.

Once online students feel that they belong and are empowered, they are more likely to

share stories and personal experiences, thereby benefiting the student experience for both

the learners themselves and their classmates. Some students may not require discovering

empowerment, in that they may join the program having already experienced some form

of liberation which enables them to speak confidently and freely, even in the virtual

setting of a doctoral program. This is likely true of older, more experienced students, who

have had sufficient lived experiences to perpetually exist as their authentic selves

regardless of the setting they find themselves in.

Establishing a strong sense of community is essential to ensuring the development

of belonging, overcoming, and empowering. Learner-learner interactions are at the core

of the development of these themes. Sustaining a positive sense of community for

learners throughout the duration of their program is challenging, particularly given the

modality and fact that many students also have families to care for and full-time careers

to consider during their studies. This positive sense of community can be supported by

the program and professor, but ultimately, based on the interviews conducted for this

research, it is the learner-learner interactions which seem to contribute most to a positive

sense of community—of course, many of these interactions are facilitated by the program

and the faculty, underscoring the importance of intentional program and course design.

Robert summarized the feelings of many participants when he shared that:

Being able to tell somebody something and have them actually listen and be

willing to learn from it is also important. So, knowing that the person you're going

to tell this to isn't going to just ignore what it is you're trying to tell them—then your voice has value to it.

The setting utilized for this research is a Catholic, Marianist university which has a specific and stated focus on social justice. That commitment to empowering diverse voices may position this setting better for ensuring empowerment is experienced by students within the online program, relative to other settings which may not be as clear about their commitment to social justice (if such a commitment is stated at all). This sentiment was also shared by students who may not have identified as Catholic or Marianst. For example, Jamila shared that, despite not being a Marianist, she appreciates the "moral-grounded approach, as well as the social justice lens" through which the program and course content engages with students. Christine, who was entering her eighth term, shared a similar sentiment in her interview, saying:

I really liked that [this program is] social justice oriented. I don't even know where I'm going with this [doctorate]—here we are, almost done with the program, and I still don't know where I'm going with it. But it seems interesting to me. I like the social justice component and everything that we do. I feel like I'm actually using what I learn in my job. I feel like it's a broad program that we can apply to a lot of different careers and a lot of different situations, and that's why I decided to join.

Another student interviewed, Paul, shared a detracting viewpoint that the program may underserve those who do not have privilege, saying:

You know we talk a lot about DEI and our program and social justice, but the

program appears to be built for people with an exceptional amount of privilege:

they don't have family obligations, or they don't work full time jobs.

As online education continues to expand, it is important to have an understanding of who

is being served and how they are being served, and ensure that accessibility remains at

the forefront of the conversation regarding the opportunities presented by online higher

education.

Theme 4: Camaraderie

Each of the three preceding themes contribute to the development of the fourth

and final theme: *camaraderie*. This theme aligns directly with the final stage of Brown's

(2001) three stages of community development and was also identified throughout the

interviews with students in the research setting. Following the establishment of a positive

sense of belonging, overcoming, and empowerment through learner-learner interactions,

the final overarching theme of camaraderie emerges. Camaraderie may exist between two

individual students or between multiple members within a cohort. When intentionally

considered, camaraderie can be established in online learning, and given the value of

socialization in education, the importance of this element cannot be ignored. Speaking

about the deep connections she was able to form in the program, Jamila shared:

I would say that this is a community that I will have for a lifetime. This is the kind

of relationship where we [might not] live in the same city but five years from

now, if I happen to be in your city, I'm going to text you and say, "hey, I'm going

to be in town. Do you have a minute to grab a drink? I want to catch up."

This theme emerges when individuals develop strong interpersonal bonds through shared challenges and interests. Camaraderie contributes to the creation and sustainability of a supportive and collaborative environment characterized by mutual trust, empathy, and commitment to one another. This establishes a supportive network which bolsters confidence, motivation, and satisfaction among students. Ideally, this deep camaraderie would be facilitated between two or more individuals within a cohort, but should also be pursued at the cohort, program, and university levels. Based on the interviews conducted for this research, it appears to be easier to develop camaraderie, at least in the online setting, at the individual and cohort levels rather than the program or university levels. During his interview, Joe shared that he became more invested in members of his cohort after an in-person immersion,[1] saying, "I always wanted [my cohort] to succeed, but now I really want them to succeed. […] That feeling really didn't start until after the [first in-person] immersion." Betsy, who hadn't yet attended an in-person immersion due to the COVID-19 pandemic, shared the value of the relationships she has developed virtually, saying:

> I'm going to be honest with you, I've met two of my best friends in this program. [...] We've become extremely close because of this program, and one lives in Ohio and one lives in New Jersey, and then there's little ol' me in Kentucky. So, being able to put three of us together and make something beautiful, I think that that is the essence of what an online program should be.

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[1] An immersion is a conference-style event hosted by the program, typically in-person on the university's campus. Students in the online program of study attend two immersions: one in their third term, and one in their final, ninth term.

By establishing these deep and meaningful relationships with other students in the online program, students feel as though they are not alone, and that they have direct resources which they can utilize when experiencing feelings of being overwhelmed or overworked. Linda shared that:

> There are times where, if I have questions about something, I can text classmates and ask them questions. There are some that are closer than others, but I feel like if I have a question, or if I need something about an assignment, or about a class or anything, I feel like I can reach out to my classmates, even if we're not in the same class, but because we are a cohort. You know we're taking the same classes. I feel like I can reach out to people and ask questions. I feel a sense of community with those classmates that I feel comfortable enough to ask questions and reach out.

Trying to directly *force* the development of camaraderie may be an impossible task. This is a stage which can be supported, through enabling connections between students, particularly within the classroom setting. As doctoral students who are often juggling their own lives, careers, and families, there is not much time for outside-the-classroom events meant to further the development of community and camaraderie among students. Christine summarized this sentiment, saying:

> [The program] did do some [community-building activities] like happy hours and things. I didn't go to those very often. I went to one or two. I just didn't have the time. I'm sure that they were wonderful, but it's hard to find the time for things like that.

Knowing that it is difficult to find time outside of the classroom to encourage the development of community, universities, program leaders, and instructors must be intentional about how they utilize their classroom time. For example, the use of breakout rooms in Zoom seems to allow students the opportunity to develop community on their own within the attendance-required classroom setting. A number of students shared their feelings on the value of breakout rooms in the process of community development. Michell shared:

> One thing about the breakout rooms, and the professors are really understanding about this, is that when we get into the breakout rooms, we never get right on topic. We always start by talking about what assignments we have upcoming and things like that. And if the professor pops in while you're talking about that, they never try to stop you. They're okay with it. They understand that we're using these sessions just as much to vent with each other as we are to actually talk about the topic. I think that helps with the sense of community because we are in a cohort, so even if it is someone you're not as close with, you've seen their face before you've seen them before. You get to know people and what's going on in their life outside of this, because a lot of times the topics do lend themselves to a personal connection. So if they say, "oh, yeah, this reminds me of what my daughter is going through right now in school," then now for future, when you meet with them you will ask about their daughter. People are always asking about each other's life outside the program, too.

Similarly, Robert, who is not in the same cohort as Michelle, shared that:

Sometimes when we're in the breakout rooms [...] we really don't talk about [the

course content]. We just interact with each other [and see] what's happening. And

then the last few minutes, we sort of rush through trying to figure out what to

bring out and who's talking [to the whole class].

Not only was the value of the development of camaraderie in the online setting made

clear through this research, but so was the opportunity to continue to develop these

communities following graduation. Universities may be missing the opportunity to

nurture new alum who have a deep affinity for their experience, despite only stepping on

campus a handful of times, if at all. Teresa highlighted the unique value of these new

online learning communities, saying:

While we build this great community, almost like a family community, [we have

to ensure] that it doesn't stop at graduation. Because through this community you

gain great insight into other people's thoughts and their resources, their

connectivity, and their different communities. That's one of the things to take into

consideration—that it doesn't just stop [after graduation]. Somehow, there's a

bridge. We all graduated, and we're all of the same mindset, how can we continue

using each other and helping support each other beyond the brick walls of [the

University].

Summary of Quasi-Mixed Methods Findings

The research question this study sought to address was: what impact, if any, do

learner-learner interactions have on a sense of community? Additionally, a subquestion

explored was how sense of community may influence a student's sense of isolation. First,

addressing the subquestion, the problem of isolation was not identified as a significant

problem during the interviews, with most participants saying they did not personally experience feelings of isolation. This was not the primary focus of the research and so it is difficult to extrapolate from this limited data collected based on a handful of interviews. However, the rapid lifestyle changes experienced during the COVID-19 pandemic may have contributed to students overcoming, or becoming used to, feelings of physical isolation from the broader campus community as remote online work has become increasingly more commonplace in the United States. Future research may focus on this specific question and other impacts it relates to online learning and the impact of the COVID-19 pandemic.

In examining the impact of learner-learner interactions on sense of community in an online doctoral program, a strong positive alignment was found between positive experiences with learner-learner interactions and an established positive sense of community throughout the data analysis. Students repeatedly pointed to their deep and meaningful interactions with other learners as a primary contributing factor for their positive sense of community within the program. This link between the accessibility of meaningful learner-learner interactions and the development of a strong sense of community has also been noted in past studies, such as Conrad (2005) and Shackelford and Maxwell (2012).

Given that community develops as a result of the interactions between two or more people, it makes sense that learner-learner interactions in particular would be beneficial for the development of a *positive* sense of community. It is through these interactions that students develop confidence and overcome their feelings of imposter syndrome. This research found that, in addition to their academic studies, students who

participate in an online learner community, whether with one other individual or multiple, were likely to develop a sense of belonging, overcome shared challenges, experience empowerment, and ultimately develop deep and meaningful friendships. Table 5 below again lists the four themes, along with a single participant quote which summarizes the essence of each theme.

Table 5

Theme Summarizing Quotes

Theme	Theme Summarizing Quote
Belonging	"Even when I talk to my family, who I'm very close with, they understand most of what I'm talking about, but they still don't know everything. [...] I don't see [my classmates] outside of the program, and yet they get it. They get me and they understand what I've gone through, so we have that shared experience that I think builds a culture." — Jamila
Overcoming	"Experiencing the workload, and how to balance it, striking a balance with [working full time], experiencing how to effectively communicate with each other because we're from all different fields, and from all over the nation, it was one of those things that we had to push through." — Teresa
Empowerment	"I really wanted to be able to get to know people, hear about different perspectives and lived experiences, and just learn more about other organizations besides the education sector. I have been very happy with the program and I'm glad that I decided to make being part of a cohort a priority. Because of that, I feel like that has really helped motivate me, because I learn a lot from just listening to other people in the sessions." — Joe
Camaraderie	"I value the relationships of the people that I've met in the program, and I know that they will be friendships for a lifetime. And honestly, those friendships are what has got me to this point." — Betsy

Discussion and Implications

  The quantitative findings helped established that, at least broadly speaking, a positive sense of community has been established within the research setting, with an average community score of nearly 60 points out of a possible 80. The qualitative findings further established that learner-learner interactions contribute positively to a sense of community through their ability to promote four important and interconnected themes: belonging, overcoming, empowerment, and camaraderie. Utilizing an established metric such as Rovai's Classroom Community Scale to measure the current state of community within the program helped further establish our ability to extrapolate meaningful findings and implications from the qualitative data collection and analysis process.

  The decision to focus this research on *learner-learner interactions* was intentional, as these are the interactions which students themselves have the most influence over. These interactions, more so than the content-learner or instructor-learner interactions, present an opportunity for students to support one another in the face of shared challenges and turbulence beyond their individual control (Gillett-Swan, 2017; Nyysti & Walters, 2018). As noted in both the literature review and the findings of this research, online graduate students often utilize learner-learner community as a primary resource for motivation, support, or reassurance when the program, instructor, or content is confusing or falls short of the aspirational and emancipatory mission of higher education (Conrad, 2005; Stein et al., 2003).

  The four themes identified through this research correspond in-part with Brown's three stages of community development: making friends; community conferment; and

camaraderie. Table 6 below highlights the intersection between the themes identified and Brown's three stages of community development.

Table 6

Research Themes and Brown's Three Stages of Community Development

Theme	Brown's Stage(s) of Community Development
Belonging	Making friends
Overcoming	Making friends; community conferment
Empowerment	Making friends; community conferment
Camaraderie	Making friends; community conferment; camaraderie

Learner-learner interactions, the focus of this research, play a significant role in establishing a meaningful and positive sense of community in the online setting. Through these interactions the virtual student can establish feelings of belonging, overcoming, empowerment, and camaraderie. Of course, some of these themes may also be enabled through the other two types of interaction identified by Moore (1989), content-learner and instructor-learner, though this and past research has indicated that students may, at times, find greater value in the learner-learner interactions as it relates to the four themes identified in this research (Conrad, 2005; McElrath & McDowell, 2008; Kurucay & Inan, 2017). This does not address other important elements of online learning, like the broader and equally important educational growth of the student, or their ability to write well or become published scholars, but it is clear that the development of community, which is largely a social exercise, requires positive and continuous social interaction with peers.

During their interview, Jessie spoke about the importance of learner-learner interactions and how they may be facilitated through an intentional approach to instruction, course, and program design, sharing their view that:

Something that really helps with the development of these learner-learner interactions is the emphasis placed, I think, intentionally by the instructors on the fact that it is not a zero-sum game. I literally cannot stress that enough. The emphasis on learning as a collaborative contract has been super great to interact with, and frankly is more productive and more realistic in terms of how learners actually do acquire knowledge. And I think that it's been really helpful that we've all been encouraged to view our conversations with each other as growth moments, and to learn insights from each other's differing experiences and perspectives. I have folks in my cohort from California, from Texas, somebody who lives part time in Kuwait, somebody in Hong Kong, somebody in Nigeria. And space is intentionally held for how our differing identities and different regions, et cetera, may impact our understanding of things. And there's this real emphasis on 'there's not a right answer, there are several answers.' And even if you don't agree with someone's answer, how does that insight enrich your understanding of why you think what you think? [...] I really value the ways in which we are taught to see each other as fully human and worthy of curiosity.

This profound quote underscores several important elements of online learning: first, the importance of intentionally encouraging learner-learner interactions to ensure a positive sense of community is developed; second, the important role of instructors in this work; third, the importance of being open to diverse perspectives and approaching

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conversations with a growth mindset; and finally, the power of online education to bring together individuals from diverse geographic backgrounds to share their perspectives and insights on the material being taught.

Another implication of this research, which was not necessarily anticipated when the study was being designed, was the use of Zoom breakout rooms as an important space for students to socialize—perhaps, even, the primary space where socialization is occurring for many students, given the difficult work-life-school balance many are maintaining. It is difficult to pinpoint whether the use of Zoom breakout rooms for socialization is students participating in *underground community*, in that perhaps the program is not providing sufficient space for students to socialize outside of the classroom, or whether this is a truly preferred space by students for socialization, given Zoom class attendance is required and the breakout rooms are therefore a convenient place to socialize. Future research on where online students prefer to socialize, and their reasoning for their preferences, would be beneficial and could further strengthen the ability of program leaders and faculty to design thoughtful online programs. This pedagogical consideration brings the role of the course instructor front and center, offering yet another point through which the educational experience of the student can be influenced. While further research will be beneficial to more deeply understand the role of the breakout room in developing meaningful community, faculty should not wait to begin intentionally creating spaces for learner-learner interactions to flourish in their classroom, as research has repeatedly established the value of these interactions.

There are limitations to the application of this research. First, the setting was an online doctoral program at a private religiously affiliated university where students are

required, as part of their program study, to be forward-thinking action-researchers. The findings of this research may not be applicable to other settings, including other online graduate degree programs, though some of the findings and interventions proposed in Chapter Three may still be beneficial to leaders in online education. Future research could further explore the intersection between online learning and the development of online communities, as this research only focused on one aspect of online community development: learner-learner interactions. Since the onset of the COVID-19 pandemic, much of the research in the online learning space may now be somewhat outdated, given the societal shifts in how we view online work and education.

Action Plan

The results of this quasi mixed-methods research revealed significant alignment between learner-earner interactions and the development of a positive sense of community among learners in an online doctoral degree program. This finding is further supported by the literature review, with past studies finding a similar link between these two elements of online learning (Conrad, 2005; McElrath & McDowell, 2008; Kurucay & Inan, 2017). Students in the program discussed not only the positive results of interactions between themselves and their peers, but further discussed how these interactions often supplemented the formal interactions expected by the program, either through programmatic or course requirements as facilitated by program leadership or instructors, respectively. The clear and powerful benefit of learner-learner interactions on sense of community, and the resulting relationships those interactions foster, underscore the importance of approaching this topic with consideration and thoughtful, intentional interventions.

Action Plan Overview

      The action plan developed for this research focuses on working to formalize

opportunities for learner-learner interactions to occur and be maintained.[2] By first

focusing on fostering these interactions in the *first term*, program leadership can work to

ensure a strong organic community-based foundation is established among incoming

cohorts, which should subsequently strengthen later interactions. This early intervention

approach may have added benefits, such as combatting isolation or even improving

academic metrics like retention; however, each of these elements would be additive to the

primary goal of this action plan to establish a positive sense of community within the

cohort, and additional research would be required before concluding such additive

benefits actually emerge.

Table 7

Action Plan Overview

Strategy	Timeline	Approach
First Term Interactions (see Figure 2 below) • First class introductions • Small group work • In-Person Immersion • Shared space and resources	Action Plan Committee formed by March 2024	Formal; top-down
Embracing Funds of Knowledge	Ongoing	Formal; top-down
Alumni Scholar-Practitioner Network	Infrastructure by Dec 2024	Informal; bottom-up
Development of a Shared Space	Infrastructure by Dec 2024	Informal; bottom-up

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[2] It should be repeated that, in developing and adopting the action plan, there is not an attempt to formalize the interactions themselves, but rather to formalize *the opportunity* for the interactions to occur.

The action plan was informed heavily by Brown's three stages of community development, with additional insight provided by data collected and analyzed in the qualitative section of this study. Figure 2 shows a logic model developed for this action research, specifically the *first term interactions* step of the action plan. The vertical row of the first term interactions logic model focuses on guiding students through Brown's (2001) three stages, from the beginning of their first term through the end of their first term, by encouraging interactions which Brown found developed meaningful community over time. The horizontal row offers specific strategies through which progression across those three stages can be realized, specifically first class introductions, small group work, the in-person immersion, and shared space and resources.

In addition to the first term interactions, the action plan developed for this research identifies three additional strategies that may be utilized to foster deep and lasting learner-learner interactions which contribute positively toward a sense of community (see Table 7). Each of these proposed interventions will be further developed by the action plan committee organized for future implementation, which will be discussed momentarily in Chapter Three. Program leaders, instructors, and students should consider how they are best positioned to facilitate learner-learner interactions, and strategies may ultimately differ, but a general blueprint is provided in the subsequent chapter.

**Figure 2:   First Term Interactions
              Logic Model**
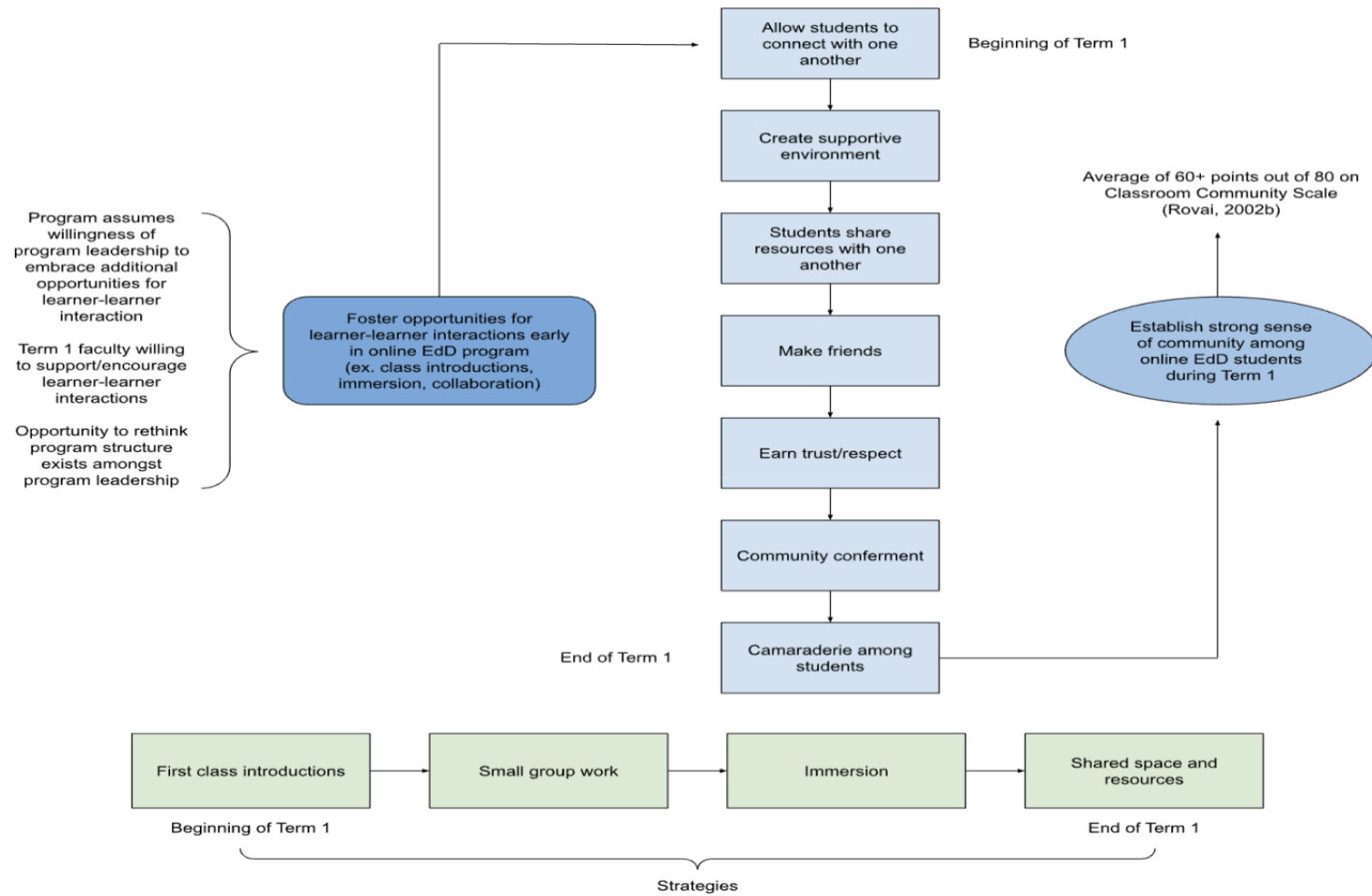
CHAPTER THREE

DESCRIPTION OF CHANGE PROCESS

The research has shown the value of learner-learner interactions in promoting a positive sense of community in an online setting; therefore, the action plan developed seeks to foster the opportunity for learner-learner interactions to take place. Given the findings of this research, as well as my personal positionality as a student in an online doctoral program, the action plan blends different intervention strategies and approaches to pursue multiple avenues through which promotion of meaningful learner-learner interactions can take place. Four action plan strategies are outlined in the following subsection: first term interactions, embracing funds of knowledge, alumni scholar-practitioner network, and development of a shared space.

Introduction of Action Plan Strategies

Two formal, top-down intervention strategies are proposed by the initial action plan to embed two important elements of learner-learner interactions within the programmatic structure: *first term interactions* and *embracing funds of knowledge*. The primary drivers of these two intervention strategies are program leaders and course instructors. Given the leaders' programmatic power and instructors influence over the pedagogical approach for individual courses, including first term classes, their involvement in ensuring these strategies are implemented and sustained is essential. Outlining these strategies does not mean they are not presently occurring in the setting, instead, it underscores the importance of codifying them into the program so that they are not lost over time, and always maintained as a priority for the program.

Both formal intervention strategies do their part to advance two informal, bottom-up strategies which also seek to promote a sense of positive community within the setting: *alumni scholar-practitioner network* and *development of a shared space*. We cannot strip the ability of individual students and cohorts to establish their own unique identities, and as such, should not want to be overly prescriptive in how we enable learner-learner interactions to occur. The primary drivers of these two intervention strategies are current students and past graduates who are interested in this work.

In considering how best to present an action plan which addresses the findings of this research, I did not want to limit the implementation of strategies to any one stakeholder group or single committee, as members of each group (program leaders, instructors, students, and alumni) are strongly positioned to enable learner-learner interactions which can contribute to a positive sense of community, regardless of whether the other groups act. But, to rely solely on program leadership to implement strategies which foster learner-learner interactions would miss a key element of the findings of this research: that online doctoral students find the *organic nature* of learner-learner interactions appealing. With that in mind, we may conclude that program leaders are in a relatively *poor* position to directly drive the desired promotion of learner-learner interactions, since acting through the program's infrastructure may in and of itself disrupt the otherwise organic nature of these interactions. However, intentional pedagogical design which seeks to *enable* opportunities for learner-learner interactions to occur is certainly beneficial and offers perhaps the most structurally sustainable effort to encourage these interactions in the long-term; in that regard, program leadership and

course instructors, given their access to resources and control over curriculum, must be included in these intervention efforts.

An overview of the proposed action plan design, developed following a thorough review of the literature and informed by the findings of this research, is provided in Table 8 below.

Table 8.

Action Plan Strategies

Strategy	Brief Definition	Intended Outcome	Primary driver of intervention	Supporting Research
First Term Interactions	Encourage students to interact with cohort regularly throughout the first term	Establish a positive sense of community in the first term	Program; instructors	Shackelford & Maxwell, 2012; Bain et al., 2010; McElrath & McDowell, 2008
Embracing Funds of Knowledge	Empower students to understand the inherent value they bring to the online program	Embrace student expertise	Program; instructors; students	Kiyama & Rios-Aguilar, 2017; Castellanos-Reyes, 2021; Shackelford & Maxwell, 2012
Alumni Scholar-Practitioner Network	Enable lifelong learning	Promote scholarship	Students; alumni; program	Renbarger et al., 2023; Brown, 200; Shackelford & Maxwell, 2012
Development of a Shared Space	Equip students with a space to interact regularly with one another	Foster a cross-cohort collab space; share resources	Students; alumni; program	Lowenthal et al., 2017; Cundell & Sheepy, 2018; Trespalacios & Uribe-Florez, 2020

Description of Action Plan

  The initial action plan is informed by this research and existing literature surrounding community development in an online graduate education setting. The action plan seeks to foster community among learners following Brown's (2001) established process of community-building in online education (see Appendix A). This process of community development is present, for example, in the first term interactions logic model, shown previously in Figure 2, through the logic model's outputs: allowing students to connect; creating a supportive environment; sharing resources; making friends; earning trust; community conferment; and finally, camaraderie among students in the cohort. To ensure these outcomes are present throughout the action plan, strategies were informed by the findings of this research and Shackelford and Maxwell (2012) who identified key learner-learner interactions among online graduate students which are predictive of a positive outcome on sense of community; further, impact of future interventions can be measured by Rovai's (2002) Classroom Community Scale.

  The improvement strategies to foster a strong sense of community will be implemented by the Action Plan Committee, which will be detailed later in this chapter, ideally with support from program leadership (the University and the OPM) and course instructors. As identified by the research and Shackelford and Maxwell (2012), the action plan strategies aim to: 1) ensure meaningful first term interactions; 2) empower learners to utilize their valuable funds of knowledge; 3) embrace program alum and empower lifelong learning; and, 4) develop a shared space where resources can be exchanged among learners and other members of the community. Implementation of each of these

strategies seeks to foster learner-learner interactions that contribute to a positive sense of community among online learners.

First Term Interactions (Formal, Top-Down Intervention)

Shackelford and Maxwell (2012) identify initial class or cohort introductions as the strongest contributor to sense of community. These introductions provide a foundation for future student interaction and are key to enabling deeper interactions throughout the term. Brown (2001) also identifies introductory interactions, and the ability for online students to share information about themselves and learn about classmates, as key to the community building process. Therefore, the first strategy identified by literature and the findings of this research is enabling *first term interactions*. This strategy, if and when implemented, will work to ensure the first term of the program is intentionally designed to encourage meaningful interactions among learners. Identifying this strategy does not mean to suggest that it is not already occurring in the setting of study, rather it seeks to further formalize the structure of the program to ensure these interactions are codified in the pedagogical design of the online program.

Throughout participant interviews, students identified these early interactions as foundational to their ability to develop a positive sense of community. Given the necessary involvement of program leadership and instructors to implement this action, this strategy will need to be further developed and ultimately implemented by the Action Plan Committee. The strategy of codifying first term interactions is supported by both the literature review (Shackelford & Maxwell, 2012) and the qualitative findings of this research.

Embracing Funds of Knowledge (Formal, Top-Down Intervention)

The second strategy identified is *embracing funds of knowledge*. In the context of the classroom, Llopart and Esteban-Guitart (2018) proposed utilizing students' deep and rich *funds of knowledge* to create a more inclusive educational setting, particularly for under-represented students, by incorporating their preexisting and dynamic understanding of the world into classroom discussions rather than relying solely on assigned, and often static, course readings. The qualitative findings of this research suggest this strategy has been successfully established by the program of study; several participants interviewed mentioned the program's orientation toward social justice and how they often learned as much or more from peers as they learned from course content or instructors.

This active extraction, promotion, and amplification of the knowledge students already carry with them demonstrates the program's commitment to embracing these valuable funds of knowledge offered by aspiring scholar-practitioners (Kiyama & Rios-Aguilar, 2017). What's more, several participants spoke about ways in which their shared academic and social experiences helped combat feelings of imposter syndrome. Through learner-learner interactions sustained over time, participants who initially self-doubted their qualifications upon entering the program began to feel as though they *belonged* in a doctoral program and could project into the future, seeing themselves as successful doctoral scholar-practitioners. Embracing online graduate learners inherent funds of knowledge serves as the primary bridge between the two formal, program-driven top-down strategies and the informal, individual or community-driven bottom-up strategies, which are presented below.

Alumni Scholar-Practitioner Network (Informal, Bottom-Up Intervention)

The third strategy identified is embracing the power of the *alumni scholar-practitioner network* which naturally emerges as students graduate from an online doctoral program. Through the qualitative interviews, a general lack of connection and affinity toward the broader campus community among online students in the program of study was identified. Colleges and universities seem to struggle with fully embracing online students in meaningful ways that develop a deeper personal connection to the institution and its shared identity. However, this lack of connection to the institution appears to be supplemented by a deep commitment to the cohort. This presents an opportunity to foster affinity through the continued support of an alumni scholar-practitioner network. This network can be built and maintained by the program or by alum of the program, but ideally, it would be crafted with both groups working together in concert. Further discussion of the development of an alumni scholar-practitioner network is presented in the future implementation section.

Development of a Shared Space (Informal, Bottom-Up Intervention)

The final strategy identified is *development of a shared space*. Through both the literature review and the findings of this research, the importance and desire for a shared space through which online students can interact and share resources with one another was underscored. A primary challenge seems to be saturation of possible shared spaces: students may congregate on the program's learning management system, via text message or email, on Facebook or an application like GroupMe, or on any of the other platform which enables communication between groups and individuals. The program may, for a variety of reasons, prefer most learner communication take place within the learning

management system. This is understandable, but perhaps contradictory to the finding that learner-learner interactions often foster a type of organic underground community (Conrad, 2005). Students may feel a greater sense of freedom to express themselves when the medium is outside of the formal grasp of the program and professors, however more research would be needed to say this conclusively. Still, I have identified this as an important strategy, and given my positionality and findings presented herein, I suggest this strategy be driven from the bottom-up. Further discussion of the development of a shared space is presented in the future implementation section.

Intersection of the Action Plan, Brown's Steps, and Research Themes

Each intervention strategy also addresses a different element of Brown's (2001) three steps of community development. The first strategy, *first term interactions*, supports Brown's first step of making friends; the second strategy, *embracing funds of knowledge*, supports Brown's second step of community conferment; the third strategy, the development of an *alumni scholar-practitioner network*, supports Brown's third step of camaraderie; and finally, the fourth strategy, the *development of a shared space*, supports all three of Brown's steps. An overview of the connection between action plan strategies proposed to both Brown's steps and the four emergent themes outlined in Chapter Two are provided in Table 9 below.

Table 9.

Action Plan Strategies: Connection to Themes & Brown's Steps

Intervention Strategy	Research themes supported	Brown's steps supported	Driver of intervention
First Term Interactions	Belonging; Overcoming	1st; 2nd	Program; instructors
Embracing Funds of Knowledge	Belonging; Empowering	1st; 2nd	Program; instructors; students
Alumni Scholar-Practitioner Network	Empowering; Camaraderie	All three steps	Students; alumni; program; instructors
Development of a Shared Space	All four themes	All three steps	Students; alumni; program; instructors

Future Implementation

The nature and timeframe of this research means that implementation of the action plan will occur after the publication of these findings. This was another reason the researcher pursued multiple avenues through which to promote the occurrence of learner-learner interaction. The logic model provided for first-term interactions can be further adapted and developed by program leadership and instructors through collaboration with enrolled students and alumni who can provide further insight into their lived experiences. Each of these steps will also help further the embrace of funds of knowledge within the program. This process of committee-based strategic intervention can provide a powerful and lasting impact on the program. As such, the researcher encourages the program to consider the interventions proposed and is equally ready and willing to participate in the change process at a programmatic level.

However, the work need not wait. The other elements of the action plan, including embracing funds of knowledge, creating an alumni scholar-practitioner network, and the development of a shared space, can begin and take place without programmatic backing. Certainly, support from the program is beneficial, but the emancipatory nature of this action research also requires, in my mind, space for the empowerment of students and instructors to act individually, regardless of permission or formal support from program leadership to begin driving change. This may sound more combative than intended by the researcher, but it is a relatively simple idea; stated another way, and distilling the literature review and findings of this research to a single sentence: the best way to build meaningful community is to begin building meaningful communities.[3] We cannot and should not wait for formal permission to build communities, especially in decentralized online settings where physical isolation may, without intentional intervention, undermine the social nature of learning. And so, we must begin this work immediately.

Surely, this work is already being done by both students and instructors in the program of study and in other online learning settings around the world. That, in my mind, is the true power of these learner-learner interactions and the emancipatory communities they develop; the communities are naturally occurring, diverse engines of social change, and powerful entities which thrive *because* of the shared challenges faced by individuals within the community. Rather than shrinking in the face of personal and academic challenges, or societal and social injustices, these communities instead band together to drive meaningful change, in turn protecting and advancing the goals and identities of the individual members.

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[3] Perhaps this sentence is overly simplified for formal academic research, however the power of individuals to effect change cannot be understated. In that regard, the blunt nature of this sentence is intentional.

Now that I have expressed at some length my feelings on the ability of individuals to drive change and create meaningful online communities through the bottom-up promotion of learner-learner interactions without the need for more formal permission, I will next outline the development of an Action Plan Committee which can oversee the formal implementation of action plan strategies. I will reflect on the top-down program-driven strategies, *First Term Interactions* and *Embracing Funds of Knowledge*, which can support the development of a positive sense of community by fostering learner-learner interactions. Then, I will return to the role of individuals as change makers and reflect on the informal, bottom-up strategies: an *Alumni Scholar-Practitioner Network* and *Development of a Shared Space*—strategies which can be initiated by individuals (students or instructors) interested in developing community, whether or not the individual is a program leader or part of a formal committee.

Action Plan Committee

The first formal step toward implementing these strategies and to measure their impact is establishing an Action Plan Committee comprised of relevant stakeholders (Giancola, 2021). The self-imposed timeline for the development of this committee is March 2024, or approximately three months following the publication of this document, once there has been an opportunity to present the findings of this research to faculty, staff, and students in the program of study. The first task of the committee will be to review these findings and engage in dialogue, providing valuable feedback to ensure the identified strategies are sound and that other effective strategies were not overlooked by the researcher. The formal role of the Action Plan Committee, as it is outlined here, is to oversee the implementation of the first two *formal strategies* identified: first term

interactions and embracing funds of knowledge. Ideally, the Action Plan Committee will also support the two *informal strategies* outlined: the alumni scholar-practitioner network and development of a shared space.

The committee should be comprised of diverse membership from the identified stakeholder groups: students, alumni, instructors, and program leaders. Additionally, the committee should seek cross-cohort membership to ensure these strategies are implemented in a sustainable manner, and to make certain no cohort is left behind. Further, the committee, upon its initial composition and first meeting, should be prepared to formalize a final action plan based on the research presented here, the committee's individual expertise, and the circumstances of the program at the time of planned intervention. There are several factors which cannot be considered, and so the researcher intentionally leaves ambiguity and flexibility in the development of both the committee and the final action plan. Given the reliance on the committee to advance the two *formal* steps, the researcher seeks to advance the two *informal* steps as soon as possible.

One of the primary reasons to encourage the program further formalize the embrace of learner funds of knowledge is to encourage the utilization of informal approaches toward developing community. As discussed, individuals need not wait for permission from power structures before embarking on the important journey of developing community. The work done by scholar-practitioners should be, of course, grounded in research and data, but useful tools which are more difficult to describe, like wisdom or intuition, should not be ignored. Delaying action to appease a system which expects every act to be grounded in data will not yield the results we seek.

Each of these steps, then, are described without much prescription as to how they are ultimately embraced by learners, instructors, or program leadership. They are offered, instead, as a recommendation for members of each of these groups to consider as online education continues to expand. The first informal strategy is to embrace the naturally occurring *Alumni Scholar-Practitioner Network* which emerges from these online programs, and to empower alumni of these programs to further their scholarly pursuits while simultaneously driving change within the programs. From a programmatic viewpoint, empowering this alumni network results in a real-world demonstration of the power of the scholarly community it has cultivated. From an alumni viewpoint, embracing the power of these networks can help further their individual commitment to higher education, scholarly practice, and participation in the broader academic community.

If we assume that students will bring with them truly powerful *funds of knowledge*, then we should also expect students to be primary drivers of change, creating positive communities within the setting, in ways that we are unable to expect or imagine. Unique solutions to the problems presented by the physical isolation of online learning will, ultimately, come from individuals who think about these problems from the street-level. A program may hesitate to embrace new or non-traditional resources like a stand-alone website or a communications platform like Discord, as these decentralized tools are outside of their control and influence. And yes, at times issues will arise from this decentralized approach. As such, while ownership and control of these recourses should be decentralized and disconnected from the formal structure of the program, cooperation and coordination is ideal.

Given the reliance on the Action Plan Committee to implement the two top-down strategies (*First Term Interactions* and *Embracing Funds of Knowledge*) the researcher wanted to demonstrate how an individual may begin to take steps that contribute to the bottom-up strategies identified (*Alumni Scholar-Practitioner Network and Development of a Shared Space*). After concluding the data collection and analysis process, I began to develop a website that could serve as a hub for learners, alumni, and staff within the research setting to share resources and advance the important work of scholar-practitioners. The final version of this website, which is still in development at time of publication, could include resources for first term students, access to past alumni dissertations, and access to a shared communal space where students and alumni can correspond in real time and further engage in scholarship and community building. Screenshots of this website, with identifying characteristics removed, can be seen in Figures 3-5 below.

Figure 3.

Example Shared Space (In Development)

Figure 4.

Supporting First Term Students with a Shared Space (ex. Resources)
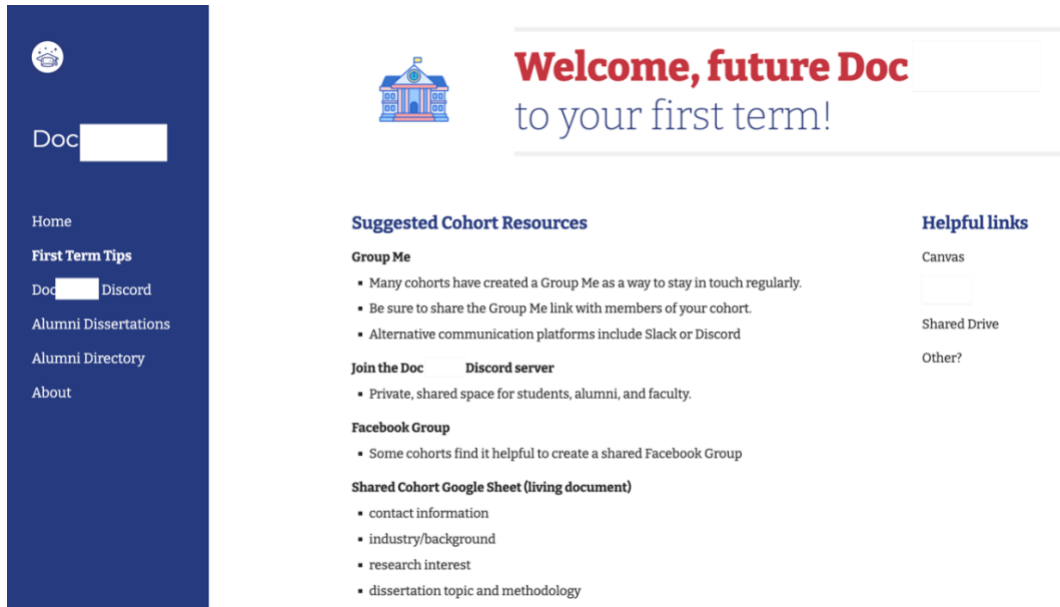
Figure 5.

Supporting Alumni with a Shared Space (ex. Dissertation Repository)
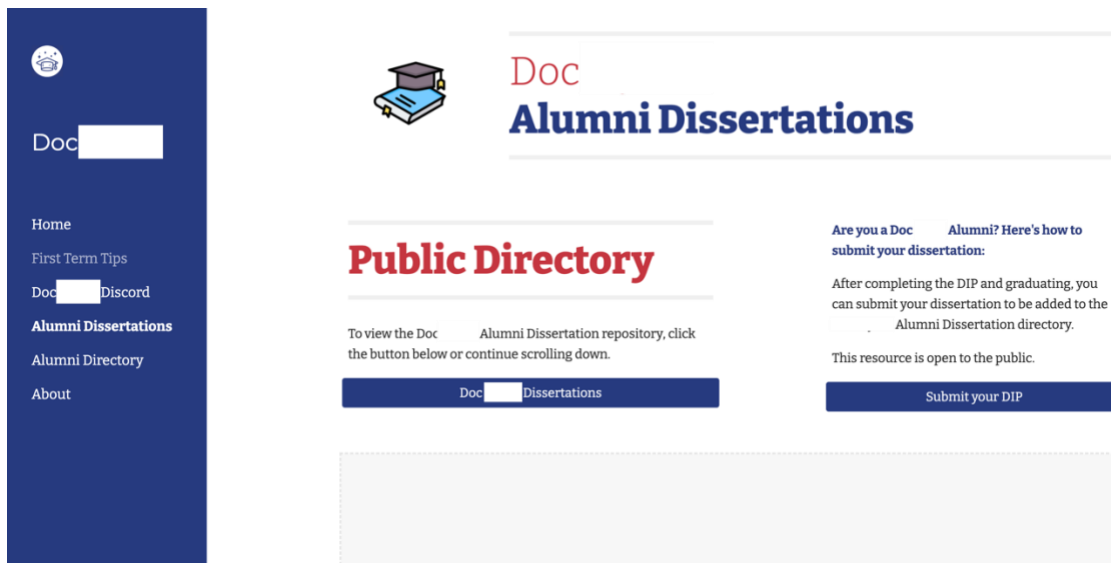
Analysis of Future Implementation

Another important task of the Action Plan Committee will be to complete a

formal analysis following future implementation of these strategies once their impact can

be measured. This research provides benchmarks, in the form of the Classroom

Community Scale results presented in Chapter Two, through which the Action Plan

Committee can better understand the impact of their implemented strategies by

readministering the CCS and comparing post-intervention results to the pre-intervention

benchmarks. Analysis of the CCS survey results will help extract any impact on sense of

community following implementation of the action plan, while additional data collected

through observations, meetings, interviews, and focus groups can help drive overall

continuous improvement. Given the focus on first-term students and interactions,

program strategies should be reviewed and verified as effective following each new

cohort to enter the program.

Action Plan Evaluation Framework

The Action Plan Committee will be tasked with evaluating the effectiveness of the

strategies implemented. The action plan evaluation should use an embedded evaluation

(EMB-E) model (Giancola, 2021). The embedded evaluation model is an iterative

process which allows for continuous improvement at any stage of program

implementation; further, this approach allows for flexible and creative solutions to issues

or problems which may arise during implementation (Giancola, 2021). Ongoing

stakeholder engagement, data collection, and data analysis through the implementation

process are key components of the embedded evaluation model, as each can work to

inform decision making by program leaders and stakeholders to ensure the program's

success (Giancola, 2021).

Stakeholder Engagement

Stakeholders will be engaged before, during, and after the implementation

process. The stakeholders for this evaluation include program leadership, faculty (full-

time and adjunct), students, and alumni. Engagement by the Action Plan Committee with

program leadership and faculty can take place through email and semi-regular meetings.

Program leadership must confirm the viability of the formal program strategies identified

and drive the changes required to make improvements. Specifically, by ensuring first-

term faculty are equipped with resources necessary to conduct introductions and small-

group work in live session classes. Additionally, program leadership should be kept

informed, insofar as they can be, as the development of a shared space for learners and

alumni is pursued.

Students should also be engaged throughout the implementation of this program.

First, they will be engaged directly by program strategies implemented. Students will

subsequently be invited to engage with Rovai's CCS and participate in interviews or

focus groups to share their feedback on the program's attempt to increase student sense of

community. The engagement with each of these stakeholder groups should be periodic

and ongoing as new cohorts begin and modifications are made to the program to ensure

long-term success toward improving students' sense of community.

Evaluation Design

This evaluation will utilize a single-group evaluation design with a particular

focus on first-term students in the online doctoral program. A key component of this

action plan is fostering a strong sense of community early in the online program. Focusing on first-term student interactions will help ensure a targeted approach to creating an initial sense of community which can be built upon throughout the duration of the doctoral program.

Evidence and Data Sources

Student Survey. The CCS survey will be sent to EdD students following their first term in the program (Rovai, 2002b; see Appendix B). This survey will collect and measure students' sense of community in the online doctoral program. As this program evaluation will be iterative and ongoing, adjustments can be made following each new cohort to measure impact of the improvement strategies over time.

Student Interviews and Focus Group. Semi-structured interviews and focus groups with EdD students following their first term will be conducted to gather further insight into the successes and challenges of program strategies utilized to promote a positive sense of community. Specifically, these will be conducted to gather rich and thick descriptions of student experiences which contributed to their sense of community. Given the semi-structured approach, these interviews and focus groups will not be limited to collecting data related to the strategies implemented in this program—it will also include student feedback for future strategies which may not yet be included in the current iteration of the action plan as outlined.

Communication Plan

The audience for this evaluation is the program leadership of the University's online doctoral degree program. Primary stakeholders are identified as University program leaders, instructors, and students. Every term during program implementation,

information will be reviewed and refined to inform future improvement strategies. These initial findings and subsequent improvements will be included in a report shared with program leadership and faculty. Additionally, students at the University will have the continued opportunity to provide feedback regarding the strategies implemented. Faculty implementing these strategies can share with students the attempt to increase a sense of community among students so they are aware of the work being done, and the benefit of engaging in online community building with their peers.

Analysis of Organizational Change

The action plan developed and the strategies suggested seek to drive organizational change which further encourages the development of learner communities in the online setting by fostering opportunities for meaningful learner-learner interactions. Given that the interventions have yet to be implemented, this section is a preliminary exploration of the principles which influenced the strategies presented and, importantly, their intended impact on learners. A full accounting of organizational change as a result of the action plan can only be completed following implementation.

First, the organizational change driven by this action plan is intended to be emergent. That is, it is intended to be an ongoing process of reviewing, refining, and improving the strategies identified and utilized to create positive learner community in the online program. Elements of the theories behind the intended organizational change have been indicated throughout, including engaging in participatory action research, embracing funds of knowledge, empowering learners, and encouraging individuals to act regardless of permission from power structures. Hatch (2018) and Kamoche (2003) discussed how organizations can use *improvisation* to minimize the problems created by

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empty spaces of organizing; for example, in jazz music, a baseline melody is established and then built upon over time using improvisation. In an organization this baseline may be a sort of static routine or shared understanding of the institution as it exists, while the element of improvisation may be individuals passing through as students, instructors, or leaders.

Second, each of these elements are intended to be, 1) drivers of organizational change, in that they are resources which already exist and can be tapped into, and 2) outcomes of the change, in that their promotion can help ensure they are gifted to future students in the online program. Indeed, the research has identified that there already exists an online community of aspiring scholar-practitioners within the setting who are eager to be tapped into. What's more, new knowledge arrives every few months with each incoming cohort.

I have spent a significant amount of time speaking of the power for *learners* to affect change, but in discussing *organizational change*, the ability of educators— professors, lecturers, adjuncts, and facilitators[4]—to drive change must be purposefully underscored. These individuals are on the front lines creating spaces that foster the development of meaningful community. Educators in the online setting can drive change and build meaningful community by facilitating open, real, and honest conversations; conversations which seek to educate and empower the student. This important work requires advocates at all levels who are ready and willing to act with urgency.

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[4] Or any other name for a *teacher*. "The teacher is of course an artist, but being an artist does not mean that he or she can make the profile, can shape the students. What the educator does in teaching is to make it possible for the students to become themselves," Paulo Freire in *We make the road by walking: Conversations on education and social change* (1990, p. 302).

Finally, it was common for participants of this research to express their affinity toward their cohort and colleagues: *I know that they will be friendships for a lifetime*, as one participant shared. But that affinity and connectedness toward their cohort, colleagues, and program did not necessarily translate to their relationship with the University. One participant remarked, "I don't really feel connected to the University" despite feeling a sense of connectedness to the people in the program, including instructors. Similar sentiments were expressed by several participants, with another sharing, "I would say I feel very connected to my classmates in the program. But I don't feel connected to the University […] I don't even know what's happening there." The exact nature of the relationship between online students and their university needs to be further researched before concluding, with any certainty, why this disconnectedness persists. The modality offers some obvious challenges related to the physical isolation of the student from the campus, but are these obvious challenges the only cause of this disconnect? Are the obvious challenges the underlying cause? And, is this sense of disconnectedness from the university by the online student a problem that can be solved?

In the opinion of the researcher, with experience working for a public institution of higher education and a for-profit education technology company, online degree programs appear too often to be viewed by the leaders of American colleges and universities as *supplemental* to traditional, on-campus degree programs. Optimistically, this may be caused by a broad lack of understanding among institutions of how to fully embrace the emerging online modality and the learner communities they create; cynically, this could be driven by institutions viewing online programs as financial opportunities rather than true engines of social mobility. In either case, it is necessary to

reiterate the important work being done by individuals on the front lines of online

education: regardless of the broader context or conversation, their instruction, support,

and knowledge creates the necessary foundation for meaningful online community to

emerge.

In both implementing this action plan and examining the resulting organizational

change, consideration should be given to the accelerating *corporatization* of higher

education which has been occurring in the United States over the past few decades

(Tuchman, 2009). The incentives driving decision making at many institutions has been

muddied, seemingly shifting from the noble cause of providing a liberal education and

enabling social mobility, toward providing career readiness and serving as engines of

economic growth. Colleges and universities all too often employ sales tactics traditionally

used by for-profit corporations and car salesmen, like advertising a higher-than-necessary

sticker price and negotiating down (Tuchman, 2009; Wolla, 2014). Scholarships are used

like rebates, and amenities like cupholders.

This emerging corporatization of higher education has led to concerning shifts in

recent years. McGee (2015) found that although there has been no sizable increase in

high school graduates, there is an emerging "illusion of demand" occurring in higher

education (p. 25). Individual students are applying to more colleges, hedging their

chances for admission, reflecting a response to the increase in marketing spend by

campuses. There are 1,000 more degree-granting institutions today than in 1996, and

there is an emerging *amenity war* to attract students with rock walls, pools, cupholders,

and so on (McGee, 2015). Some prestigious universities spending over one million

dollars ($1,000,000) per month on digital advertising campaigns (Marcus, 2021) and total

ad spending at colleges and universities is on track to surpass three billion dollars ($3,000,000,000), which is up from two billion dollars ($2,000,000,000) in 2021 ("How Much," 2023). At the same time this is occurring, some public universities are downsizing their academic program offerings to remain competitive (Silberstein, 2021). In the face of these shifts, the development of meaningful communities is even more essential.

Paulo Freire's (2002) notion of *conscientização* calls on individuals, through critical education, to "[learn] to perceive social, political, and economic contradictions, and to take action against oppressive elements of reality" (as cited in Furman, 2012, p. 202). Such a critical examination requires community members to question more than just *symptoms*, like the ongoing corporatization of American higher education, but to also examine the *causes*; indeed, there are large social, political, and economic forces at play, driving institutions to make decisions which, increasingly, no longer seem to align with the aspirational mission of the traditional university. These storied institutions appear to be struggling with shifts in society, be it the rapid technological advancements or a striking increase in diversity of both thought and appearance represented within their hallowed halls; scrambling to adapt and resistant to change, these institutions appear to be losing sight of their service-oriented mission. Future leaders who understand these societal changes and the technologies driving them, particularly Millennials and Generation Z, will be well positioned to reorient these institutions toward their academic mission, with a new focus on justice and liberation rather than wealth and prestige. These young academics, artists, and activists will drive meaningful organizational change and restore the soul of the American university.

Reflection on Personal Leadership Practices

It would be impossible for me to reflect on my current approach to leadership

practice, at the time of writing, without including a broader discussion of America's

political and cultural context when I started my online doctoral journey: I began the

program in January 2021, less than a year after COVID-19 was declared a global

pandemic by the World Health Organization, and just days after the first failed coup

attempt by a sitting president of the United States culminating in the January 6th attack

on the U.S. Capitol. A few months earlier, in June 2020, I participated in the Black Lives

Matter (BLM) protests sparked by the police murder of George Floyd. Confined and

quarantined due to COVID-19, I was increasingly enlightened to the extraordinarily

deep-rooted nature of racism in America, taking part in open discussions and

demonstrations organized through online social networks. Unfortunately, this

enlightenment arrived much later than I would like to admit. But equipped with a new

understanding of my country and my purpose, I joined the BLM protests in Lafayette

Square in Washington, D.C. The day before I protested, the then-president ordered the

use of force against peaceful protesters assembled in Lafayette Square. At the request of

the President of the United States of America, uniformed officers of the law violently

attacked American citizens peacefully exercising their First Amendment rights, and the

American president walked across the street flanked by the Secretary of Defense, who he

had earlier asked in the Oval Office if protesters could be shot,[5] and Chairman of the

Joint Chiefs of Staff, who was wearing military fatigues, to stage a strongman photograph

holding a Bible (Goldiner, 2022). The now-disgraced ex-president, who was impeached

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[5] "Can't you just shoot them? Just shoot them in the legs or something?" the then-president asked the
Secretary of Defense, Mark Esper (Godliner, 2022).

for a second time in January 2021 after lying to the American public and inciting an insurrection, has since been indicted on 44 federal charges and 47 state charges, 17 of which relate to his attempt to overthrow the United States government. Through these turbulent times, the need for social justice-based leadership has been made apparent.

Four Cornerstones for Effective and Empowering Leadership

It is through this contextual lens that I began the EdD program in January 2021, and through this lens that my current leadership practice has emerged. My leadership practice, which influenced this research and the resulting action plan, is informed by what I believe to be four foundational cornerstones for effective and empowering leadership: *individuality*, *free expression*, *community*, and *solidarity against oppression*. In the subsequent subsections, I will briefly reflect on each of these elements, with some discussion of my experiences and influences; but my influences will speak more powerfully to each of these foundational cornerstones, since they are the architects of its creation, and so I will be brief with my pablum and let their well-crafted words do most of the heavy lifting.

Individuality

The first cornerstone for effective and empowering leadership that I have identified is *individuality*. The identification of this as a cornerstone for community-focused leadership may, initially, seem somewhat counterintuitive or even contradictory. But in order to ensure the sustained strength of the communities we develop, we must first empower individuals to be their authentic selves. Forced conformity is not a path toward meaningful community. I believe that individuality in personal identity, culture, and expression is required for effective leadership which empowers both the individual

leader and the broader community they're engaging with. Further, effective leaders will seek to instill the powerful nature of *individuality* in those they work with. Simply accepting and advancing existing power structures, which often attempt to perpetually define members within those structures, will not be enough to meet the moment we find ourselves in.

> In this age the mere example of nonconformity, the mere refusal to bend the knee to custom, is itself a service. Precisely because the tyranny of opinion is such as to make eccentricity a reproach, it is desirable, in order to break through that tyranny, that people should be eccentric. Eccentricity has always abounded when and where strength of character has abounded; and the amount of eccentricity in a society has generally been proportional to the amount of […] moral courage which it contained. That so few now dare to be eccentric, marks the chief danger of the time.[6]

Free Expression

The second cornerstone for effective and empowering leadership identified is *free expression*. Each of us has a story to tell, and until we feel comfortable telling that story, the communities we build will not be complete. Instead, a *simulacrum* of meaningful communities will prevail—a clever mirage that attempts to convince us of their effectiveness and of our empowerment, when in reality these hollow communities uphold the status quo. These entities, whether well-meaning or not, will satisfy some of the needs of community, but will too often fail to meet the needs of the individuals within the

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[6] John Stuart Mill (1859). Excerpt from *On Liberty*.

community, and in particular, minority members of the community who are not given the space to express their authentic identity.

In the United States, free expression is constitutionally protected by the First Amendment. But we live at a time when these protections are, increasingly, being undermined and attacked. This includes attacks by way of government censorship and force. For example, supposedly free-minded leaders in states like Texas and Florida are implementing book bans and silencing LGBTQ+ voices, and are, at this very moment, attempting to erase the existence of transgender people through government regulation and force. Contradictorily, these same individuals often espouse their belief in a limited government, only to later weaponize their elected representative power to target marginalized communities and their protected equal rights under the law.

Since beginning this doctoral program, I have found myself more comfortable expressing my identity and beliefs openly. This need and ability to freely express oneself will manifest differently in different people. For me, it manifested by way of a renewed passion for political involvement and activism, and a new passion for writing. Over a decade ago, while an 18-year-old freshman at the University at Albany, I wrote an essay titled *Memes and My Political Life,* which concluded: "as I look forward, it's challenging for me to see where I'll be in ten or twenty years, but I know that politics will be involved some way or another" (Butler, 2011, p. 4). Ten years later, when a draft opinion of the Supreme Court's decision to overturn Roe v. Wade leaked to Politico, I walked from my Washington, DC apartment to the steps of the Supreme Court.

By the time I arrived, a dozen or so other people had similarly taken this late-night trek to the steps of the citadel of American law. The mood was understandably

somber: the threat that activists had been warning of for years—the increasing

conservative weaponization of the American legal system to *restrict* rights of historically

marginalized communities—had arrived. Over the years, and despite these warnings,

establishment figures reassured the nation that such a day would, most likely, never

arrive. But despite these all-too-often empty reassurances, a historic regression of

women's rights was about to upend decades of established legal precedent. The mood,

which was somber initially, began to turn into action as more and more people arrived to

protest. Soon, security barriers were placed around the Supreme Court—but these

protesters had no intention to storm the building, they simply wanted to peacefully

demonstrate and express their disagreement with the imminent restriction of their rights.

As the night went on, I happened to be interviewed by reporter for CNN who was

covering the emerging protests; my message to the reporter was simple, and has the same

essence that I am trying to convey through my approach to this research and the resulting

action plan: "people need to recognize 'that they have power' to enact change [and]

consider those 'who are going to be targeted' if Roe is struck down" (LeBlank and

McKend, 2022). We must, it seems to me, actively engage in the development of

meaningful communities to counteract the increasing and concerning challenges this

country, and our society, faces.

> Not everything that is faced can be changed, but nothing can be changed until it is
>
> faced.[7]

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[7] James Baldwin, 1962.

Community

In an era where our shared understanding of the world is under attack, and when systems and structures seek to limit the individual expression of our unique identities, the value of meaningful community increases almost exponentially. These radically free spaces will ultimately foster the next generation of thoughtful and inclusive leaders who understand these challenges and the active, ongoing battle to define tomorrow. The challenges we face and stand to face are deeply concerning, and they have not been expressed coherently by very many people in our society—a vast majority of those speaking out with clarity are Black activists, artists, and academics. Each of us, if we understand the challenges on the horizon, have an obligation to speak out, and to build meaningful communities that protect their members. As such, community is a foundational piece of effective and empowering leadership.

> Dominator culture has tried to keep us all afraid, to make us choose safety instead of risk, sameness instead of diversity. Moving through that fear, finding out what connects us, revelling in our differences; this is the process that brings us closer, that gives us a world of shared values, of meaningful community.[8]

Solidarity Against Oppression

Once meaningful community is created, the work is not yet done. We must be prepared to face shared challenges and overcome them through the strength of our community, which empowers us as individuals to become connected, respect our differences, and stand in solidarity against oppressive forces in our shared world. Preparing ourselves to be leaders in an increasingly connected world, and as a result, a

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[8] bell hooks (2013). Excerpt from *Teaching Community: A Pedagogy of Hope*.

more diverse world, is the final cornerstone of effective and empowering leadership. The other three cornerstones—individuality, free expression, and community—contribute to our ability to effectively realize the fourth and final cornerstone of *solidarity against oppression*.

Cultural identity is a powerful force. For some, national identity is equally as powerful. The shared symbols of a culture or nation are powerful tools, and tools that should not be forgotten as the battle against oppression continues. We cannot allow forces of darkness to hijack and destroy these shared symbols. Acknowledgement of history is not, and should not, be a rejection of these symbols. Instead, it should seek to strengthen these symbols and position them as tools to be used by the liberator rather than tools weaponized by the oppressor. This is difficult work, and it is work which requires active participation at various levels of society and government. There is no single solution to address these problems, so we each must position ourselves to answer the call of history if and when it arrives.

> Do not get lost in a sea of despair. Be hopeful, be optimistic. Our struggle is not the struggle of a day, a week, a month, or a year, it is the struggle of a lifetime. Never, ever be afraid to make some noise and get in good trouble, necessary trouble.[9]

Conclusion of Personal Leadership Practices Reflections

The decision of the researcher to study the impact of virtual learner-learner interactions on sense of community was deeply intentional. These interactions, I believe, are foundational to an individual's development of *real meaning* within an online setting.

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[9] John Lewis (2018). Retrieved from Twitter.

The interactions we have with others—whether as colleagues or competitors, leaders or followers—influence our understanding of the world around us. However, and perhaps somewhat obviously to the reader, the emergence of virtual interactions between individuals is a relatively new development in human history. My belief in the power of online communities, and need to focus on developing *meaningful* online communities, is informed by my own experience as a virtual learner, certainly, but also as someone who has participated in and examined online communities for nearly 15-years, since 2009, when I co-founded and served as the Editor-in-Chief of the online publication *MovieViral.com* (Butler, 2010). The publication was created at the dawn of the development of transmedia storytelling known as *unfiction[10]* or *alternate reality gaming*. The website and its forum were one of the primary online communities that emerged from this new immersive form of storytelling. Writing for *The Guardian,* James McMahon (2010) described *MovieViral.com* as "a website full of people picking through the detritus of the web […] asking themselves and each other, what does it all mean?"

In 2011, when as a college freshman I wrote the paper *Memes and My Political Life* for a course assignment, social media was just emerging as an influential force for political and social change. In that paper (Butler, 2011), analyzing the implication of memes[11] spreading over the internet, I wrote:

I've also spread memes over Facebook by posting news articles, videos, and commentary as my statuses. It's hard to see what effect this is having on people,

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[10] Unfiction. and the related alternate reality gaming, can be defined as "a cross-media genre of interactive fiction using multiple delivery and communications media, including television, radio, newpapers *[sic]*, Internet, email, SMS, telephone, voicemail, and postal service." (*Unfiction.com*, n.d.)

[11] In this context, a meme is defined as "a unit of information in a mind whose existence influences events such that more copies of itself get created in other minds" (Brodie, 1996, p. 11).

but it's undoubtedly spreading memes to others. The internet is a powerful way to spread memes. [… It only takes seconds] for something to explode on the internet and get millions of impressions. For example, I found out the news about Osama bin Laden's death an hour before President Obama announced it by reading it first on Twitter. This does also have a downside, in that people often blindly believe what they read on the internet so they are often consumed by memes that aren't true. But memes do that: they [lodge] themselves in your mind even if they're false. In fact, Richard Brodie believes that if you start to believe all memes are "True" then you become more susceptible to be infected by mind viruses (Brodie, 1996, p. 16). Either way, the internet is a huge forum for the transmission of memes. (pp. 3-4)

The internet remains a forum for the transmission of memes. Communities on the internet, whether meaningful or destructive, serve as the primary vehicle through which memes and mind viruses spread. Since writing that essay, I have continued examining how both information and misinformation spreads online; unfortunately, at the time of writing, there remains a competition between these competing forces that shape our shared understanding of reality (Butler, 2022). Each of these experiences have contributed to my interest in researching the topic of online community and the ongoing development of my leadership practice. Each are contextually important for the reader to gain a complete understanding of the perspective I hold as a scholar-practitioner and as a citizen, particularly as it relates to my research into the development of online community between learners.

Figure 6.

Four Cornerstones of Empowering and Effective Leadership

_____
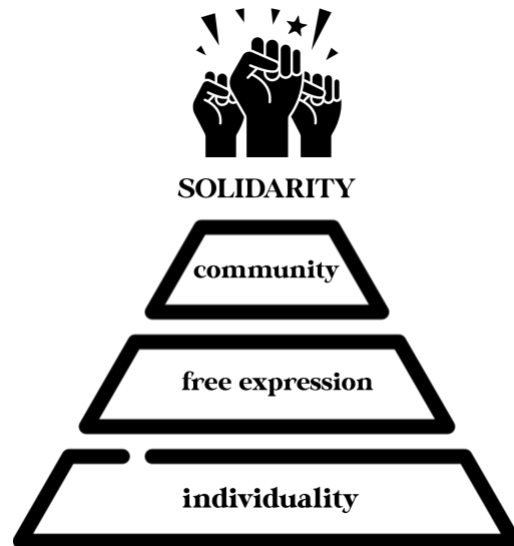
Implications for Practice

The purpose of this study was to explore the impact of learner-learner interactions on sense of community among doctoral students in an online degree program. The study sought to measure sense of belonging, connectedness, and community within the program, with a specific focus on learner-learner interactions, to better understand the phenomena and subsequently propose appropriate interventions to improve the setting. Through this action research, in addition to the prescriptive and academic elements, I tried to powerfully convey the lived experiences of online doctoral students who have, despite challenges presented by the modality or broader societal context, created or joined meaningful communities. One of the powerful undercurrents embedded in this research is the ability of resilient people to band together as a community when sharing a common challenge or goal, which in turn allows them to step closer toward a deeper and

more meaningful understanding of their individual identity. This deep and self-reinforcing sense of community, which takes focused time and energy to establish, has the power to drive significant change in organizations and move society toward a more just and fraternal[12] equilibrium.

Speaking more practically and academically, this research has helped further establish the importance of university and program leaders, who are creating and operating online graduate degree programs, to design both the program and course structure with intentional consideration toward fostering learner-learner interactions. The literature and research findings presented herein point to the power these interactions have on fostering a deeper and meaningful sense of community in the online setting. The organic nature of these learner-learner interactions means, however, that informal interventions must also be staged by online learners themselves. Indeed, these learners can create powerful communities in their online programs regardless of formal permission given to them by the institution or its leaders. Ideally, each of these approaches will be enacted in concert between stakeholder groups. Finally, by utilizing a blended framework of Brown's (2001) three stages and Rovai's (2002b) Classroom Community Scale, this research helps establish a formal approach through which to further examine these learner-learner interactions and their impact on sense of community in online programs.

Implications for Future Research

To that end, there are a number of avenues future research can take to more deeply understand the phenomena of sense of community among learners in online

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[12] For the definition of fraternal I am using here, see Francis, P. (2020).

programs. First, an examination of students who begin an online program but ultimately withdraw within the first year would help identify blind spots that may exist within these online programs and their challenges in establishing meaningful community among learners who may not be comfortable in the online environment. The research conducted and presented here is through the lens participants, and a researcher, who willingly volunteered to share their stories, and as such, it may take a more optimistic viewpoint than the equally valid experiences of students who did not participate in communities or did not remain in the program.

Additional research on the impact that COVID-19 had on our broader societal understanding and embrace of online learning is also important, especially as tomorrow's college student, who has now experienced online *high school*, begins to look toward opportunities for higher education. What do these incoming students expect from institutions of higher education by way of online learning? What virtual resources should institutions be prepared to provide? What do the virtual spaces where young people are building community look like? How do we protect the aspirational academic and social mission of *the university* from broader disruption caused by emerging technologies? Where does the mission of the university align with the mission of increasingly powerful technology companies, and where do their missions not align? These are all questions I will continue to refine and ask myself, and questions which further formal research would do well to examine.

Conclusion

Online learning will continue evolving as the technology underpinning its delivery does the same. The development of and participation in meaningful community

is one of the most sacred human experiences we can strive to achieve. This research set out to better understand how online learners participate in community during their virtual academic journey. The findings helped further establish the value of learner-learner interactions in developing a positive sense of community, and subsequently, the action plan presented ways in which the online setting can strive to further foster these valuable interactions and promote a positive sense of community. It is my hope that this research helps learners and leaders interested in online education better understand the value of community and the ways in which community can be established. The action research framework and resulting action plan underscore the researcher's view that those of us interested in building meaningful communities cannot remain spectators as these important virtual spaces further develop and expand. We must be on the frontlines of their creation.

Leaders, educators, and learners who want to understand and protect the aspirational academic and social mission of the university must be positioned to understand broader trends occurring within our society and the forces behind those trends. The recent, rapid, and exponential nature of technology's advancement and its influence over society cannot yet be fully understood—we simply can't know where these advancements will ultimately lead us. These broader philosophical discussions will have to be saved for another time when the benefit of hindsight and objectivity emerge. In the interim, today's leaders should be positioned to participate actively in the radical progress offered by technology, to challenge those in power who seek to use technology for their own personal advancement, and to ensure certain self-evident Truths are protected and expanded. One of the most powerful tools we have as individuals is our

ability to create and participate in community. These shared spaces, when thoughtful and

well-crafted, offer us the ability to understand ourselves and our neighbors better;

whatever context we find ourselves in, whatever challenges we may face, participation in

meaningful community remains one of the primary sources of strength for the free,

exploring mind of the individual.

Human beings suffer,
They torture one another,
They get hurt and get hard.
No poem or play or song
Can fully right a wrong
Inflicted and endured. […]

History says, *Don't hope*
On this side of the grave…
But then, once in a lifetime
The longed-for tidal wave
Of justice can rise up,
And hope and history rhyme.

So hope for a great sea-change
On the far side of revenge.
Believe that further shore
Is reachable from here.
Believe in miracles
And cures and healing wells.

Call miracle self-healing:
The utter, self-revealing
Double-take of feeling.
If there's fire on the mountain
Or lightning and storm
And a god speaks from the sky

That means someone is hearing
The outcry and the birth-cry
of new life at its term.

<div align="center">

Seamus Heaney
The Cure at Troy, 1991

</div>

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APPENDIX A: Brown's Process of Community Building

Figure 1

Brown's (2001) Conditional Matrix

Behavior modeled by instructor, veterans.

New students get comfortable with technology, pedagogy, content, faceless interaction; fit class into schedule.

Find similarities about which to communicate.

Personal, academic need exists to be part of a community.

Make on-line acquaintances.

Community conferment.

Experience camaraderie.

High priority placed on class, interaction.

Darker shades of gray indicate higher levels of
1) Engagement in class and dialogue
2) Feelings of belonging to a community

Figure 2

Brown's (2001) Process of Community Building
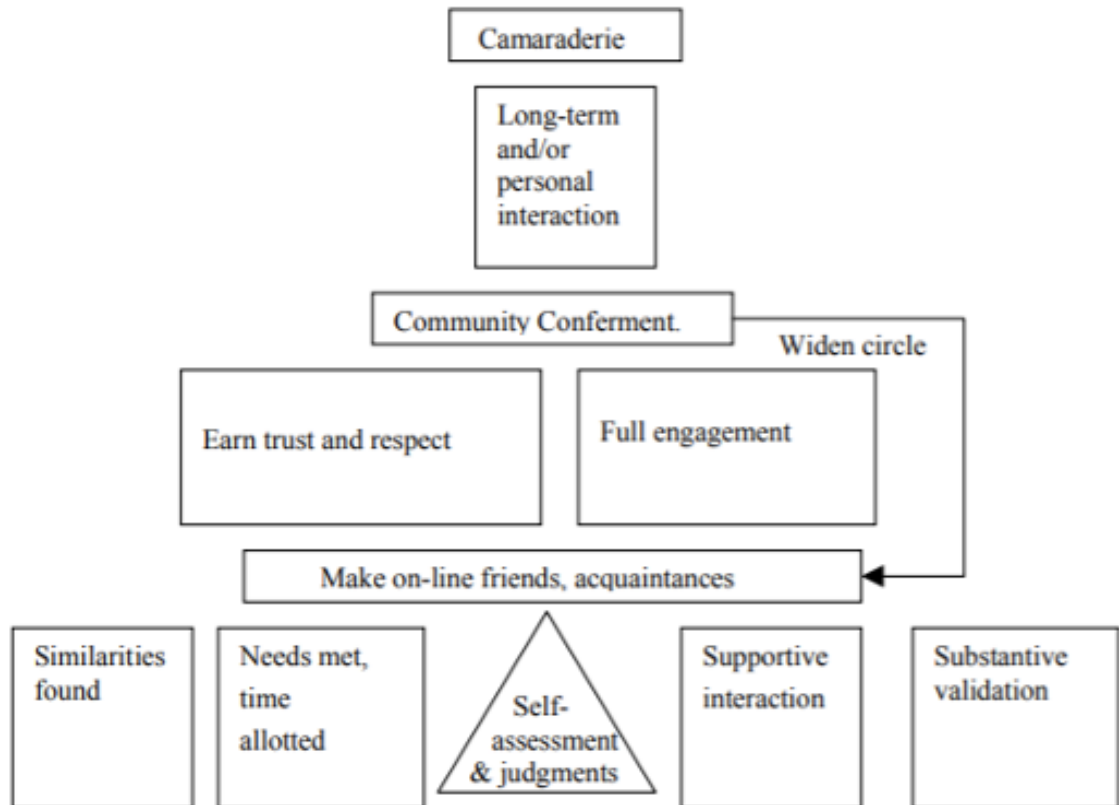
Table 1

Brown's (2001) 15-Step Process of Community Building

Step	Description
1	Tools
2	Comfort level
3	Self-assessment and judgments
4	Similarities
5	Needs met
6	Time allotted
7	Supportive interaction
8	Substantive validation
9	Acquaintances/friends
10	Earning trust, respect
11	Engagement
12	Community conferment
13	Widen circle
14	Long term/personal communication
15	Camaraderie

APPENDIX B: Classroom Community Scale (Rovai, 2002b)

Directions: Below, you will see a series of statements concerning a specific course or program you are presently taking or have recently completed. Read each statement carefully and place an X in the parentheses to the right of the statement that comes closest to indicate how you feel about the course or program. You may use a pencil or pen. There are no correct or incorrect responses. If you neither agree nor disagree with a statement or are uncertain, place an X in the neutral (N) area. Do not spend too much time on any one statement, but give the response that seems to describe how you feel. *Please respond to all items.*

	Strongly agree (SA)	*Agree (A)*	*Neutral (N)*	*Disagree (D)*	*Strongly disagree (SD)*
1. I feel that students in this program care about each other	(SA)	(A)	(N)	(D)	(SD)
2. I feel that I am encouraged to ask questions	(SA)	(A)	(N)	(D)	(SD)
3. I feel connected to others in this program	(SA)	(A)	(N)	(D)	(SD)
4. I feel that it is hard to get help when I have a question	(SA)	(A)	(N)	(D)	(SD)
5. I do not feel a spirit of community	(SA)	(A)	(N)	(D)	(SD)
6. I feel that I receive timely feedback	(SA)	(A)	(N)	(D)	(SD)
7. I feel that this program is like a family	(SA)	(A)	(N)	(D)	(SD)
8. I feel uneasy exposing gaps in my understanding	(SA)	(A)	(N)	(D)	(SD)
9. I feel isolated in this program	(SA)	(A)	(N)	(D)	(SD)
10. I feel reluctant to speak openly	(SA)	(A)	(N)	(D)	(SD)

11. I trust others in this program	*(SA)*	*(A)*	*(N)*	*(D)*	*(SD)*
12. I feel that this program results in only modest learning	*(SA)*	*(A)*	*(N)*	*(D)*	*(SD)*
13. I feel that I can rely on others in this program	*(SA)*	*(A)*	*(N)*	*(D)*	*(SD)*
14. I feel that other students do not help me learn	*(SA)*	*(A)*	*(N)*	*(D)*	*(SD)*
15. I feel that members of this program depend on me	*(SA)*	*(A)*	*(N)*	*(D)*	*(SD)*
16. I feel that I am given ample opportunities to learn	*(SA)*	*(A)*	*(N)*	*(D)*	*(SD)*
17. I feel uncertain about others in this program	*(SA)*	*(A)*	*(N)*	*(D)*	*(SD)*
18. I feel that my educational needs are not being met	*(SA)*	*(A)*	*(N)*	*(D)*	*(SD)*
19. I feel confident that others will support me	*(SA)*	*(A)*	*(N)*	*(D)*	*(SD)*
20. I feel that this program does not promote a desire to learn	*(SA)*	*(A)*	*(N)*	*(D)*	*(SD)*

APPENDIX C: Semi-Structured Interview Protocol

<u>Helpful definitions for this interview:</u>

Community: a general sense of connection, belonging, and comfort that develops over time among members of a group who share a purpose or commitment to a common goal.

Sense of community: a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment together.

- To get started, can you tell me a bit about yourself and how you decided to pursue your doctorate in [the] online EdD program?

1) Reflect on the **interactions** and **collaboration** you've experienced in your online courses. In particular, focus on interactions/collaboration with your classmates. What kind of interactions and collaborations come to mind?
2) Can you describe how those learner interactions contributed to your sense of community?
3) Are there any tools, resources, or strategies you would recommend be used to increase the interactions and collaboration between classmates in your online courses?
4) This question focuses on **connectedness**, to your classmates, to the program, and to the university. When you reflect on your time in the program so far, what makes you feel connected to others?
5) Can you describe specific activities that contribute to a feeling of connectedness in your online courses?
6) Can you describe ways that your program has promoted community among students as a method to combat isolation while completing your doctorate online?
7) Can you describe some of the challenges or barriers that exist when connecting with other students in your online courses?

- Greeting
    - Welcome! Thank you for your participation and taking the time out of your day, I very much appreciate it.
    - I don't want to take up too much of your time this morning/evening/afternoon, so I will get started with the Interview Script
    - I won't start the recording until we go through the introduction and some housekeeping to make sure you are comfortable with preceding.

- Before starting the recording, Introduction + housekeeping
    - Nick Butler, entering term 8 of the online […] EdD program.
        - Info about the study and how it came to be
            - When I started the online EdD program, I personally sought community with my classmates, particularly given the physical isolation of online coursework.
            - I am hoping better understand how learner-learner (or student-to-student) interactions can help create and sustain community
    - Housekeeping
        - Informed Consent: Do you have any questions about the consent form which was at the beginning of the Survey you completed?

        - Risks/Discomforts
            - During the interview, we'll be discussing your personal feelings and experiences, which *may* cause some discomfort. Please know at any time we can stop, take a break, or move forward with another question
            - Privacy: in any published work, a pseudonym will be used to protect your experience and identity
        - While interviewing, I may take some notes from time to time
        - This should take about 30 minutes.
        - Any questions?

- Is it ok to begin the recording?
    - START RECORDING
    - SAY TODAY'S DATE

APPENDIX E: SPSS Results

Table 1: Reliability

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	46	100.0
	Excluded[a]	0	.0
	Total	46	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.911	.912	20

Reliability (Connectedness)

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	46	100.0
	Excluded[a]	0	.0
	Total	46	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.902	.907	10

Reliability (Learning)

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	46	100.0
	Excluded[a]	0	.0
	Total	46	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.809	.814	10

Table 2: Descriptive Statistics by Total Participants

Descriptive Statistics

	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Mean Std. Error	Std. Deviation Statistic
Classroom Community Scale	46	26	77	59.93	1.614	10.949
Connectedness Subscale	46	12	40	29.80	.970	6.578
Learning Subscale	46	14	39	30.13	.801	5.431
Valid N (listwise)	46					

Table 3: SPSS Descriptive Statistics by Gender

Descriptive Statistics

How would you describe your gender?		N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Mean Std. Error	Std. Deviation Statistic
Female	Classroom Community Scale	30	26	77	58.33	2.096	11.481
	Connectedness Subscale	30	12	38	29.07	1.149	6.291
	Learning Subscale	30	14	39	29.27	1.121	6.142
	Valid N (listwise)	30					
Male	Classroom Community Scale	15	42	77	62.40	2.470	9.568
	Connectedness Subscale	15	14	40	31.00	1.882	7.290
	Learning Subscale	15	25	37	31.40	.815	3.158
	Valid N (listwise)	15					
Nonbinary, Agender	Classroom Community Scale	1	71	71	71.00	.	.
	Connectedness Subscale	1	34	34	34.00	.	.
	Learning Subscale	1	37	37	37.00	.	.
	Valid N (listwise)	1					

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Table 4: Descriptive Statistics by Ethnicity

Descriptive Statistics

What is your ethnic background?		N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Mean Std. Error	Std. Deviation Statistic
White / Caucasian	Classroom Community Scale	27	26	77	60.07	2.238	11.629
	Connectedness Subscale	27	12	40	29.74	1.252	6.508
	Learning Subscale	27	14	39	30.33	1.157	6.013
	Valid N (listwise)	27					
African American	Classroom Community Scale	11	43	74	63.18	2.586	8.577
	Connectedness Subscale	11	17	40	31.64	1.805	5.988
	Learning Subscale	11	26	38	31.55	1.098	3.643
	Valid N (listwise)	11					
Mixed race	Classroom Community Scale	1	44	44	44.00	.	.
	Connectedness Subscale	1	23	23	23.00	.	.
	Learning Subscale	1	21	21	21.00	.	.
	Valid N (listwise)	1					
Asian – Eastern	Classroom Community Scale	1	57	57	57.00	.	.
	Connectedness Subscale	1	26	26	26.00	.	.
	Learning Subscale	1	31	31	31.00	.	.
	Valid N (listwise)	1					
Black	Classroom Community Scale	1	56	56	56.00	.	.
	Connectedness Subscale	1	29	29	29.00	.	.
	Learning Subscale	1	27	27	27.00	.	.
	Valid N (listwise)	1					
Hispanic	Classroom Community Scale	2	49	51	50.00	1.000	1.414
	Connectedness Subscale	2	24	30	27.00	3.000	4.243
	Learning Subscale	2	21	25	23.00	2.000	2.828
	Valid N (listwise)	2					
Middle-eastern decent	Classroom Community Scale	1	42	42	42.00	.	.
	Connectedness Subscale	1	14	14	14.00	.	.
	Learning Subscale	1	28	28	28.00	.	.
	Valid N (listwise)	1					
Native American	Classroom Community Scale	1	72	72	72.00	.	.
	Connectedness Subscale	1	38	38	38.00	.	.
	Learning Subscale	1	34	34	34.00	.	.
	Valid N (listwise)	1					
I prefer not to say	Classroom Community Scale	1	69	69	69.00	.	.
	Connectedness Subscale	1	36	36	36.00	.	.
	Learning Subscale	1	33	33	33.00	.	.
	Valid N (listwise)	1					

Table 5: Independent T-Test, (Gender)

T-Test (Gender)

Group Statistics

	How would you describe your gender?	N	Mean	Std. Deviation	Std. Error Mean
Classroom Community Scale	Female	30	58.33	11.481	2.096
	Male	15	62.40	9.568	2.470
Connectedness Subscale	Female	30	29.07	6.291	1.149
	Male	15	31.00	7.290	1.882
Learning Subscale	Female	30	29.27	6.142	1.121
	Male	15	31.40	3.158	.815

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | | |
		F	Sig.	t	df	Significance One-Sided p	Significance Two-Sided p	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	95% Confidence Interval of the Difference Upper
Classroom Community Scale	Equal variances assumed	.146	.704	-1.180	43	.122	.244	-4.067	3.445	-11.015	2.882
	Equal variances not assumed			-1.255	33.127	.109	.218	-4.067	3.240	-10.657	2.524
Connectedness Subscale	Equal variances assumed	.724	.400	-.922	43	.181	.362	-1.933	2.098	-6.163	2.297
	Equal variances not assumed			-.877	24.714	.195	.389	-1.933	2.205	-6.477	2.611
Learning Subscale	Equal variances assumed	3.286	.077	-1.260	43	.107	.215	-2.133	1.694	-5.549	1.282
	Equal variances not assumed			-1.539	42.920	.066	.131	-2.133	1.386	-4.929	.663

Table 6: Levene's Test (Past Online Experience)

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | | |
		F	Sig.	t	df	Significance One-Sided p	Significance Two-Sided p	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	95% Confidence Interval of the Difference Upper
Classroom Community Scale	Equal variances assumed	4.341	.043	-.141	44	.444	.889	-.477	3.382	-7.292	6.338
	Equal variances not assumed			-.159	43.902	.437	.874	-.477	2.989	-6.502	5.549
Connectedness Subscale	Equal variances assumed	9.638	.003	-.291	44	.386	.773	-.590	2.030	-4.682	3.501
	Equal variances not assumed			-.342	43.160	.367	.734	-.590	1.727	-4.072	2.892
Learning Subscale	Equal variances assumed	.529	.471	.068	44	.473	.946	.114	1.678	-3.267	3.494
	Equal variances not assumed			.072	39.627	.472	.943	.114	1.583	-3.087	3.315

Table 7: One-way ANOVA (Age)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Classroom Community Scale	Between Groups	72.676	3	24.225	.191	.902
	Within Groups	5322.129	42	126.717		
	Total	5394.804	45			
Connectedness Subscale	Between Groups	41.261	3	13.754	.303	.823
	Within Groups	1905.979	42	45.380		
	Total	1947.239	45			
Learning Subscale	Between Groups	6.567	3	2.189	.070	.976
	Within Groups	1320.650	42	31.444		
	Total	1327.217	45			

Table 8: One-way ANOVA (Ethnicity)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Classroom Community Scale	Between Groups	1141.316	8	142.665	1.241	.304
	Within Groups	4253.488	37	114.959		
	Total	5394.804	45			
Connectedness Subscale	Between Groups	469.508	8	58.689	1.469	.202
	Within Groups	1477.731	37	39.939		
	Total	1947.239	45			
Learning Subscale	Between Groups	246.490	8	30.811	1.055	.415
	Within Groups	1080.727	37	29.209		
	Total	1327.217	45			