

Reconnecting Professional Development:
A Connectivist Approach to Shared Learning Through the Development of Social
Presence in Virtual Learning Networks

by

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ABSTRACT

Online education and virtual learning spaces have become increasingly incorporated into the educational landscape. Even before the Covid-19 pandemic closed most institutions in 2020 for in-person learning, online education was growing rapidly. As the world emerged from the pandemic, online education and virtual learning environments of all types were commonplace in K-12, higher education, and professional development. This action research explored two main areas in the virtual learning space. First, this research focused on how to provide a more connected and social online learning experience. Specifically, the goal was to determine how participation in Supporting Online Connections in Asynchronous Learning (SOCIAL) helped faculty to provide opportunities for social interaction and learning within their online contexts. Second, this research sought to determine if the development experience itself impacts how the participants share and implement the knowledge they gain. Of particular interest was identifying if by providing this type of development within the same educational context (virtual, asynchronous, and diverse) there was a direct impact on their ability to develop and deliver similar virtual learning experiences to their students.

This research provided asynchronous learning opportunities for educators within a private Facebook group designed to deliver professional development to educators in different countries. Participants learned about both Connectivism and Community of Inquiry/Social Presence through both content and explicit modeling within the various Facebook “events” structured around the group and learning objectives. Pre- and post-

innovation surveys, one-on-one interviews, and materials collected during the events provided insight into what the participants experienced and what they were planning to implement in their own contexts. The data revealed that participants felt they gained knowledge and had a beneficial experience. In addition, they incorporated what they learned in their context in theory through their action plans and in practice through immediate implementation. Findings suggest that providing professional development in this structure was beneficial in knowledge acquisition through both content and modeling as well as facilitating the creation of similar experiences within the participants' professional contexts.

DEDICATION

I dedicate this first and foremost to my family. To my husband Justin and to my sons Jakob, Christian, Elijah, Justin, James, and Mikey. No matter how involved in this process they were (or were not), I have and will always dedicate what I do in life to them. They remind me each and every day the importance of never giving up...because we have no other option.

I also want to dedicate this to that little boy that could have never dreamed of the journey life would take him on. I often think that I am living a life I was not meant to live. I remember how much that little boy struggled with hope and how, too often, he thought he would never be more than the life he was born into. Somehow, though, he made the decision that he was going to live a different life than the one he felt trapped in. It is because of that little boy that I am the proud husband, father, friend, professional, and academic that I am today.

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TABLE OF CONTENTS

	Page
CHAPTER	
1 LEADERSHIP CONTEXT AND PURPOSE OF THIS STUDY	1
Larger Context.....	1
Situated Context.....	5
Researcher Positionality.....	8
Problem of Practice and Previous Cycles of Research.....	10
Purpose of this Study and Research Questions	15
2 THEORETICAL PERSPECTIVES AND SUPPORTING SCHOLARSHIP ..	18
The Shift Towards Online Instruction	18
Professional Development for Online Teaching	21
Guiding Theoretical Perspective: Connectivism	25
Guiding Theoretical Frameworks: Community of Inquiry	34
Application to this Study.....	37
3 RESEARCH DESIGN AND METHODS	42
Settings and Participants	43
Recruitment	47
Procedures	48
Research Methods, Data Collections, and Data Analysis	58
Validity and Reliability of this Study	63
Role of the Researcher	64

CHAPTER	Page
Ethical Consideration of this Study	64
4 DATA ANALYSIS AND RESULTS.....	66
Quatitative Participant Group Data.....	67
Theme: Knowledge Sharing	71
Theme: Connection Building	86
Theme: Beneficial to Professional Development	103
Summary of Results	116
5 DISCUSSION	118
Discussion of Findings.....	120
Research Question 1 (Application of Social Presence Techniques)	121
Research Question 2 (Mirroring of Learning Environment).....	126
Research Question 3 (Social Presence and Professional Development).....	130
Limitations.....	135
Implications for Theory	137
Implications for Practice: Scaling Up and Transferability	140
Concluding Thoughts.....	145
REFERENCES	147
APPENDIX	
A PRE-INNOVATION SURVEY INSTRUMENT	155
B POST-INNOVATION SURVEY INSTRUMENT	159
C POST-INNOVATION INTERVIEW PROTOCOL	163

APPENDIX

Page

D	SITUATIONAL CAPACITY ASSESSMENT FORM	166
E	ACTION PLAN FORM	169
F	SOCIAL EVENT MAP	172
G	SURVEY QUESTION-LEVEL ANALYSIS BY CONSTRUCT	174
H	IRB EXEMPTION	177

CHAPTER 1

LEADERSHIP CONTEXT AND PURPOSE OF THIS STUDY

“There is divine beauty in learning... To learn means to accept the postulate that life did not begin at my birth. Others have been here before me, and I walk in their footsteps.” —Elie Wiesel (Bekx, 2018)

This chapter lays out the leadership context of this study. It first reviews the larger context of the state of online education and online learning across the United States and the global educational system. After that, the situated context of this study is highlighted including the researcher’s positionality within this study. This chapter also introduces the Problem of Practice and gives an overview of previous cycles of research. Finally, the purpose of this study and research questions are introduced.

Larger Context

If you asked almost any higher education professional, staff and faculty alike, about the changing landscape of post-secondary education, you would hear of an industry that goes through almost constant change in content, pedagogy, administration, and regulations. Those individuals who have dedicated their professional lives to the educational advancement of others are often learning, non-stop, right alongside their students. This can be seen clearly as you look at the changing dynamics of online learning in higher education. In a world that has become increasingly dependent on technology and the internet, online learning is also becoming a common way for students to take classes. Social interactions, shopping, banking, working, and learning have all been changed (for the better some would argue). Just as there is not only one type of post-

secondary institution, there is not only one way to facilitate online learning. Because of that, the faculty and student experience is not consistent, student outcomes can suffer, and how online learning is viewed by faculty and students varies based on their experiences, either real or perceived.

According to Musu-Gillette (2015), in the fall of 2013 approximately 4.6 million U.S. students (around 26% of total undergraduate enrollment) were taking at least one online course, with approximately 2 million students (around 11% of total undergraduate enrollment) in online programs, taking online courses exclusively. According to the National Center for Education Statistics (n.d.), in the fall of 2019, those numbers increased to approximately 7.3 million students in at least one online course (slightly over 37% of total undergraduate enrollment), with approximately 3.3 million students (around 17% of total undergraduate enrollment) in online programs.

Reviewing the first post-pandemic Integrated Postsecondary Educational Data System's (IPEDS) data release for the 2021-2022 12-month enrollment data, just over 60% of United States post-secondary students take at least 1 online course, with slight over 30% taking all online courses. This represents just over 11 million students in the United States during this 12-month enrollment period. Factors such as technological advancements and the impressions of online education after experiencing it through the pandemic will have a major impact on what online enrollment looks like as education continues to find the "new normal" after Covid-19.

Global undergraduate enrollment of students taking online courses is growing. The World Economic Forum (n.d.) notes that in 2021, the online learning platform Coursera reported more than 20 million new learners worldwide, equal to the number of new learners of the previous three years combined. In the Middle East and North Africa (MENA) region, there has been a large shift to online education in response to the Covid-19 pandemic. In 2020, Tunisia, for example, saw students participating in online courses jump from 40,000 in February to over 120,000 in July (World Bank, n.d.).

One could say with confidence that online education is changing rapidly and has been woven tightly into the fabric of higher education in the United States and the global education community. What will also remain will be the need to overcome many of the challenges faced during the rushed transition to online learning. These include access to reliable internet, institutions' ability to handle the technological load of increased online courses, and fluctuations in staffing and hiring of not only faculty but support staff.

When looking at the larger context of online education, student enrollment is only part of this ongoing and changing narrative. Faculty views around online education have a major impact on a school's online educational programming. "'Embrace' is probably too strong. 'Acquiescence' suggests too much passivity. Whatever word you choose, though, the data indicates that American faculty members--whether grudgingly or enthusiastically--are increasingly participating in and, to a lesser extent, accepting the validity of online education" (Lederman, 2019, para. 1). According to *Inside Higher Ed's*

2019 faculty survey, there was a 50% increase from 2013 to 2019 of faculty who have taught an online course (30% and 46% respectively) (Jaschik & Lederman, 2019).

However, even with the increased number of faculty with experience teaching online courses, the majority of faculty surveyed are not convinced of online course quality. When asked if they felt online learning outcomes are at least equal to in-person learning outcomes, 36% either disagreed or strongly disagreed, 33% either agreed or strongly agreed and 32% were fairly neutral (Jashik and Lederman, 2019). How those opinions split is telling. Of those who have never taught online courses, 42% felt the outcomes would not be at least equivalent, with 44% being neutral. Of those that have taught online courses, 61% felt the outcomes would be at least equivalent, and 18% were neutral. The data indicate that when faculty are exposed to online learning and teach using that delivery method, they are more likely to rate the outcomes as equivalent or better. The data does not indicate that every faculty member that has taught an online course thinks that way, and just as with students, there are different experiences with online learning that impact how online education is perceived. Faculty exposure and their level of buy-in, therefore, is extremely impactful and important to the success of a school's online education program.

Beyond the larger context of enrollment statistics and faculty perceptions, the Covid-19 pandemic that began (for the United States) in 2020 has in some ways accelerated and damaged online education. Across the country, students finished their 2019-2020 school year in various remote formats in both K-12 settings and higher education. The change was swift and rushed, and most students and teachers/faculty were

not prepared for the transition. For many individuals and families, this was their first experience either being in an online class or teaching an online class. Schools and colleges used breaks and structured time off to prepare for the transition. However, as any instructional designer would argue, a few weeks is not enough time to fully develop a quality online course, let alone an entire educational experience.

The start of both the 2020-2021 and 2021-2022 school years presented many other challenges. Although schools, K-12 and post-secondary alike, had more time to prepare, delivery formats were riddled with confusion (in-person, hybrid, blended, fully distance). Colleges and universities were grappling with how to bring students back to campus safely and what to do if there was an outbreak. Between the dramatic and instantaneous shift in the spring of 2020 to the sporadic and rapidly changing plans due to variant spikes, students, parents, and faculty became weary and confused. Schools have put together online courses quickly with little to no training for instructors and teachers. Instructors were left to mirror their in-person pedagogical practices within a virtual classroom. This left both them and their students with disconnected and anti-social virtual classrooms, and this course model provided a learning experience unlike anything they had experienced before. Students went from connected, social classrooms to online spaces that did not provide the connection and interactive type of education they were used to in an in-person classroom.

Situated Context

This study took place in a non-profit organization whose goal is to partner with universities across the globe and seek ways to implement increasing experiential

knowledge of American-style higher education. Texas International Education Consortium, or TIEC, works closely with educators within their global partner institutions. Through mentorships and professional development programs, educators are exposed to new perspectives and pedagogical concepts that help them innovate within their own professional context. For some, this could be related to implementing or improving online learning within their context, and for others, this could be about learning to conceptualize and communicate change within their professional context. These educators are willing participants in these programs and development opportunities and many continue on by staying connected to their fellow participants and the TIEC team to find new ways to improve and expand their knowledge of teaching and learning.

Another way in which TIEC partners with universities is by providing educational capacity-building and consulting services to schools around the globe. Their goal is to analyze and improve the partner school system by evaluating curriculum and policies and procedures and working to develop faculty through professional development and mentoring opportunities with U.S. faculty from a TIEC member school. One area that is of particular interest to TIEC is aiding in designing and implementing quality online programs that are scalable and grounded in best practices of online learning. This can range from developing an online-appropriate curriculum to helping universities and faculty develop skills focused on building collaborative and interactive virtual learning environments.

TIEC strives to develop partnerships and expand access to education, professional development, and economic opportunities for the institutions they partner with.

According to the TIEC website (n.d.), its leadership envisions “a highly connected world where Texas higher education is accessed globally through technology-enabled learning and innovative international partnerships, and where Texas institutions collaborate and mobilize to solve the world’s toughest challenges.” TIEC’s focus on providing partnerships, professional development opportunities, English language training, and other services helps them work towards their goal of improving education globally.

Social media and Facebook in particular have provided opportunities for some of these participants to stay connected and involved in a virtual community. TIEC hosts an Online Global Community (OGC) as a private Facebook group. Educators who participate in TIEC professional development and/or mentorships through TIEC partnerships are invited to join the Facebook group as a way to stay connected to each other and the TIEC programming. The group has over 500 members, with TIEC staff serving as group moderators and administrators. Activity in the group ranges from questions posed by participants to postings designed to foster discussion and participation. An informal poll in March 2022 asked participants what they hoped to gain from participating in the OGC. The majority of responses were about seeking collaborative learning opportunities and participating in creative professional development opportunities.

Various discussion/participation prompts have made it clear that many of these participants are concerned about how to increase participation within their online communities and classrooms. The concerns focus on how to encourage interaction and collaboration within online classes and do so in a way that enhances the learning experience. Some of these participants are currently trying to build out action plans as part of their TIEC development and are wrestling with creating social experiences that engage students. These educators have seen their students and colleagues struggle with rushed transitions to online delivery due to the pandemic, and even those who are working towards applying online learning best practices find it difficult to break away from in-person pedagogical habits. As educators who had previously participated in TIEC programs, they have decided to continue their own development by choosing to actively participate in the OGC.

Researcher Positionality

Since 2011 I have served in a variety of roles within higher education including teaching and school administration. Since 2014, the majority of my experience has been rooted in online education with a focus on faculty and curriculum development. In my roles, I have focused on all areas of school administration including budgeting, accreditation, professional development and in-service training, program and course development, and transitioning schools and programs from in-person to online. I have also had the opportunity to work on the technical side while developing core curricula and course shells within various Learning Management Systems (LMS).

In January 2022 and again in 2023, my professional context expanded. First, I began working with Excel Education Systems (EES) in Minnesota as the Director of Post-Secondary Operations. The school system operates an online middle school, two online high schools, and an online career and technical school. At the start of 2023, I was promoted to Chief Strategy Officer tasked with identifying and implementing organizational strategy and projects across all schools and business units.

In addition, in the summer of 2021, I participated in an internship focused on mentoring with Texas International Education Consortium (TIEC). At the start of 2022, I began formally working with TIEC as a technical advisor and consultant. This role with TIEC is a contract position, and therefore I can work in various departments and on various projects. Currently, in my role as technical advisor and consultant, I provide professional development to their global partner schools that include topics such as online course development and mapping, virtual classroom management, and innovative engagement strategies for virtual learning environments. In addition, I assist in moderating the TIEC Online Global Community (OGC).

Both of these professional contexts are fully online educational environments. While the EES context has an almost exclusive asynchronous learning environment, the TIEC programming has a blend of synchronous and asynchronous learning as well as a social, asynchronous learning community through the OGC Facebook group. Though the learning environment and methods are quite different between these two contexts, they share the same goal. Both contexts seek to identify ways to help faculty transform online learning experiences into a more interactive virtual learning community. To do this, it is

necessary to find ways to build up instructor/student and student/student interaction and relationships. It is also important to find ways and spaces for students to collaborate and expand their learning.

Though both of these contexts would benefit from the research, there are two main reasons why the focus of this action research was the TIEC context. First, the participants and schools that TIEC works with have a richer diversity of faculty, programs, and students. While EES is looking forward to a growth trajectory and seismic changes, TIEC provides an opportunity to work with faculty that have taught both in-person and online within various programs and schools. Second, TIEC has already established the OGC, which has significant participation by the current and former participants of TIEC's professional development programs. The group members are frequently engaged in dialogue surrounding continued development and innovations in online teaching and learning. For these reasons, it was logical to focus the innovation and research within the TIEC/OGC context.

Problem of Practice and Previous Cycles of Research

This section discusses the problem of practice as it is situated within the professional context highlight previously. The previous cycles of research are presented to support the problem of practice and need for this research. As highlighted, the previous cycles of research were completed in a different context; however, they are relevant and applicable to this action research study.

Problem of Practice

My problem of practice addresses limited engagement in online learning communities among faculty and students, which causes faculty and students to feel disconnected and withdrawn from the learning community. Faculty struggle to incorporate techniques designed to promote engagement and collaboration. Students often feel they are not having a classroom experience that encourages and promotes collaborative experiences and do not help build learning networks. Faculty and students are ill-equipped to have meaningful and successful engagement in the virtual learning community space due to limited training and a lack of skills needed to promote these types of learning environments. The years of resistance to online learning and the virtual learning space have contributed to both faculty and students distancing themselves from online learning. The Covid-19 pandemic forced migration to emergency distance learning which only increased these sentiments.

This has a negative impact on both students and faculty. Particularly in the higher education space, there is a need to address these root issues and identify ways to facilitate successful online learning communities and experiences for all participants. Addressing this issue by offering strategies, tools, resources, and ongoing support will ultimately impact student success. This research and innovation provided a targeted online learning opportunity that addressed how to increase engagement and collaboration through both content and experiential learning. Supporting Online Connections to Improve Asynchronous Learning (SOCIAL) consisted of three events designed to focus the participants' time on assessing their own contextual situations, identifying and

developing techniques to increase social presence in their virtual classrooms, and creating an action plan to apply their learning to their virtual learning environments. SOCIAL took place within a social media platform in lieu of a traditional learning management system or webinar format. In addition, participants developed an understanding of networked learning and connected knowledge building.

SOCIAL provided development opportunities for faculty that consider the changing needs of the online learning community and provide innovative techniques and skills to create social and collaborative online learning experiences for students in diverse virtual environments. The success of this innovation was measured by assessing participants' understanding of the various constructs and techniques prior to and after participating in SOCIAL. In addition, participants had the opportunity to discuss their experiences, challenges, and their final action plan with the researcher and fellow participants.

At the core of preparing faculty for successful online teaching is a successful online experience for students. Faculty and students alike often have a perspective of online learning as a learning model that is self-taught and lacking in both interaction and collaboration. Faculty may also feel this due to impersonal and isolated virtual professional development opportunities they have experienced. For online learning environments to adapt and continue to be innovative spaces, faculty development and learning opportunities must also adapt and provide innovative ways of sharing content and techniques while also creating collaborative learning networks. This innovation provided faculty with both the tools and the experience to re-engage and connect with

students and other educators in a way that positively impacted the online learning environment.

Previous Cycles of Research

This research was conducted as action research. Action research, generally completed in a professional context, has practical application and purpose. Unlike theoretical research, action research is done in cycles based on the idea of a continuous process of theory, implementation, and improvement. As Dick (2014) states, “The many action researchers who are practitioners are more interested in changing the world than in discussing its philosophical status” (p. 4). The initial cycles of research were conducted over two research cycles. The first cycle of research was conducted in Spring 2021. The second cycle of research was conducted in Fall 2021.

Both previous cycles of research were completed in my previous professional context. Though the context changed, these participants were also online education professionals and faculty and students from a blended learning environment that incorporated both in-person and online learning. The themes in the data are relevant to the current problem of practice and the situated context of this research, and in both cycles of research I developed themes remarkably similar to each other.

The initial cycle of research involved one-on-one interviews with two online education professionals whose experience ranged from online instruction to faculty oversight and administration. The questions and conversations were more generalized around online education and their thoughts on what made students and faculty successful in that learning environment. Of the themes that emerged, two stood out as being

paramount. The first was faculty preparedness and how that impacted their ability (both real and perceived) to successfully teach in an online environment. Both participants spoke of the importance of faculty having the opportunity to develop new skills and provide innovative learning experiences for their students. The second theme that developed was the need for interaction within the online courses. For these participants, social interaction was key to overall successful student outcomes and experiences. As they noted, students and faculty who feel isolated in these online courses do not seem to have positive and successful educational experiences.

The next cycle of research that I conducted was more thorough and gathered data from both online faculty and online students. Using a mixed-methods approach, faculty were interviewed within a focus group format while students were surveyed. I found similar themes around the need for faculty development and training and the need for social, interactive experiences in both cycles of research. Of particular interest in this cycle was that similar themes emerged from the faculty participants and the students. Both groups focused on the need for trained, experienced faculty who could utilize the online learning tools they were given to provide quality course experiences. The faculty focus group noted that often faculty members will not feel confident in their ability to teach online and therefore are resistant to trying new, innovative techniques. Students also noted that they could tell the difference between trained, confident faculty and those who were not as comfortable and/or resistant to online learning.

The second theme that emerged from both faculty and students was the importance of collaboration and social interaction within the online learning environment. The faculty felt that without some type of collaborative learning opportunities for online students, they would lose out on the experience of peer evaluation and feedback which they felt was key to the courses they were teaching. Students felt they would benefit from virtual spaces that would allow them to connect with other students. In addition, all participants felt that identifying ways to humanize online instruction and the classroom experience in the virtual environment would be very beneficial for their learning experience.

Though completed in a different context, both cycles of research have provided data that indicate there is a significant need for development and training opportunities for faculty that will provide them with opportunities to develop strong online teaching skills, specifically in creating connected, social online learning environments and humanizing instruction. As noted in the research cycles, additional development and training would lead to a higher level of faculty confidence to teach online. In addition, both cycles indicated the importance of having social and collaborative opportunities for students and faculty. The initial cycle's participants related those social experiences directly to positive student outcomes. The next cycle's participants, faculty and students alike, identified ways that having those social, collaborative experiences would enhance their virtual learning experiences. This corroboration of the data from both cycles

indicates that additional research around an innovation that addresses these two themes would be warranted and beneficial to the field.

Purpose of this Study and Research Questions

This action research explored two main areas in the virtual learning space. First, this research focused on how to provide a more connected and social online learning experience. Specifically, the goal was to determine how participation in SOCIAL helped faculty to provide opportunities for social interaction and learning within their online contexts. By providing these types of opportunities within their contexts, the experience for all of their participants would be one that fosters more connected virtual learning environments that promote social networking and knowledge sharing. Second, this research sought to determine if the development experience itself impacts how the participants share and implement the knowledge they gain. Of particular interest was identifying if by providing this type of development within the same educational context (virtual, asynchronous, and diverse) there was a direct impact on their ability to develop and deliver similar virtual learning experiences to their students.

Aside from the specific areas mentioned, there was also a broader context of this research around how to re-think professional development. That process involved exploring how to use unconventional means, in this case Facebook, and incorporating tools and techniques that can positively impact and support participants with an expansive geographical makeup. This has implications not only for organizations such as TIEC but also for any institution that embarks on a goal of fostering collaboration and connectedness that eliminates geographical barriers. This ultimately will reshape how

online learning happens and infuse it with a social aspect that improves the experience and outcomes of all participants.

Research Questions

RQ1: For faculty who previously participated in TIEC development/training and choose to participate in SOCIAL, how does that experience drive their application of social presence techniques in their contexts?

RQ2: For faculty who previously participated in TIEC development/training and choose to participate in SOCIAL, how does that experience advance their knowledge and utilization of techniques to create similar learning environments within their own contexts?

RQ3: How does utilizing social presence techniques in the delivery of SOCIAL impact the effectiveness of SOCIAL as a form of asynchronous professional development?

CHAPTER 2

THEORETICAL PERSPECTIVES AND SUPPORTING SCHOLARSHIP

“Changes do not manifest themselves significantly in society until they are of sufficient weight and force.” — George Siemens (2006a)

This chapter begins by briefly looking at the need for institutions to focus on preparing faculty for the shift to online instruction. It then discusses professional development for faculty in higher education, specifically for those teaching in a virtual/online environment, and the unique struggles online faculty face when learning how to teach in a virtual environment. Additionally, this chapter focuses on the theoretical perspectives used to frame this study and the problem of practice, Connectivism and the Community of Inquiry framework. Connectivism will highlight the learning networks built through professional development. The Community of Inquiry framework will inform both the discussion of successful online learning and the development of the innovation.

The Shift Towards Online Instruction

Higher education has been on a track towards a shift to online learning for years before the pandemic struck (Baker et al., 2020; Donovan et al., 2018). The pandemic did not create a demand for online learning. This has, perhaps, exposed an unfortunate scenario: preparing faculty for online instruction (and the professional development needed) may not have necessarily kept pace with the demand for online learning (Baker et al., 2020; Martin et al. 2019c; Sharpe & Armellini, 2020). Acknowledging this is necessary as schools navigate how to better create social, collaborative learning

environments that meet the needs of students and assist in producing exceptional student outcomes. Virtual learning environments should focus on not only engaging students through content but also building opportunities for social interaction, collaboration, and rich online communities.

There are several reasons why an institution would make a switch to online learning. A school could be looking to expand its student population through the expansion of its potential geographic reach. Particularly in the context of international universities, online programming opens up pathways for partnerships and collaboration with other universities, such as those in the United States, that can offer innovative programming such as certifications, specializations, micro-credentialing, dual degrees, etc. A school could be making a switch to accommodate changes in enrollment and physical space limitations. Or, as has been seen during the Covid-19 pandemic, a school could make the change to react (or be proactive) to community safety needs. This switch generally takes considerable time and resources. Technology plays a big role in this transition, as does preparing faculty (and students) for a virtual classroom experience and adjusting the ways in which social interactions are facilitated within the online learning environment.

Preparing faculty and ensuring they are both confident and energized to instruct online is key to this transition. Martin and colleagues stated, “we define faculty readiness to teach online as a state of faculty preparation for online teaching” (Martin, et al., 2019a, p. 100). Martin and colleagues (2019a) also discuss how faculty’s perceptions of teaching online impact their attitudes towards teaching through that medium. Generally

speaking, the student experience and learning outcomes will be more positive if the faculty embrace online teaching and the technology involved in virtual learning (Aguilera-Hermida et al., 2021). In addition to their subject knowledge, online teaching requires different ways to engage students and different ways for students to engage each other. Unlike the classroom, a teacher cannot simply call on students or start an impromptu conversation. This can cause stress for faculty as they begin to transition to online teaching as they may no longer feel comfortable or as much of an expert as they once were (Akem et al., 2021; Cooper et al., 2018; Cutri & Mena, 2020; Donitsa-Schmidt & Ramot, 2020). It also identifies the need for creative techniques that will encourage and enhance engagement and interaction.

In addition, faculty must learn to focus on different areas of teaching within an online environment. Facilitating an online course requires different techniques than a traditional, face-to-face course. There is a greater importance on promoting student-student and student-instructor interaction as well as more managerial aspects of teaching (Martin et al., 2019b). Instructors must understand the technology tools being used for their online course delivery. Knowledge and use of these tools have a direct impact on student learning outcomes (Karamati et al, 2011). Time is also a consideration when looking at readiness to teach online. Developing and transitioning courses to online instruction is both time and resource intensive (Bussmann et al., 2017).

Instructor roles continue to change in both the in-person and virtual classroom. The dynamic nature of the classroom changes when the instructor moves from the (almost) exclusive knowledge giver and must take on the new role of facilitator (Adnan,

2018). They need to manage very different aspects of the learning process including course materials and technology while helping students navigate their changing roles as a more active learner (Anderson et al., 2001). This is a shift in the power dynamic of the classroom. As Cutri & Mena (2020) summarize in their study's findings:

These findings of disrupted identity as expert can be considered cultural artifacts of traditional faculty roles that are being challenged in the digital age of higher education and as a source of professional vulnerability. Addressing such cultural discontinuities should be included in professional development efforts to support faculty. (p. 368)

As institutions continue to navigate transitions to online learning, it is important to not only think about the technological needs but also the support needs of the faculty. It is not just the location of the learning that shifts, but the entire dynamic of instructor-student and student-student interactions and relationships shifts along with it.

Professional Development for Online Teaching

Developing faculty is imperative to ensure that faculty are skilled in new and developing pedagogy and technologies in order to provide exceptional classroom experiences. It is important to understand the diverse needs of the faculty and provide professional development opportunities that address those needs (Howe et al., 2018; Martin et al., 2019c; Naylor & Nyanjom, 2021). In addition, institutions must adjust and tailor their professional development offerings to include not only the online pedagogical development needs but also other needs such as logistical, psychosocial, and technological needs (Barrot et al., 2021; Khalil et al, 2020; Verea & Gonzalez-Calvo,

2020). Mentorship and software and hardware training were found to also be very important to faculty development (Howe et al., 2018; Naylor & Nyanjom, 2021).

Institutions and faculty are unique, and schools and faculty will find their pathway to online learning different from the path other institutions and faculty take. Some faculty are “early adopters” and seek out ways to incorporate virtual learning in their courses. Others are faculty that are forced to move towards online instruction due to changes at their institution (or more recently, the need to move all instruction to online delivery). How those different groups are prepared for online instruction will differ as well. As Richardson and colleagues (2020) found, early adopters generally required much less formal training than moderate or later adopters. The later adopters generally required more step-by-step instruction.

Moderate adopters, however, represent a unique group of instructors. Though they tend to be less advanced than an early adopter as it pertains to technology, they do make efforts to incorporate and learn new technologies more quickly and with less assistance than later adopters (Richardson et al., 2020). Whereas an early adopter will explore and find new technologies through trial and error, a moderate adopter will want development opportunities; they may just not be self-starters or may not have an exact idea of what they may need to explore. More structured training and development opportunities will benefit this group, as they have the desire but not the insight as to what they need to learn.

Appropriate professional development opportunities are key for successful online courses and programs. When those are not present, or there is an immediate need to

quickly transition to online learning, instructors often resort to duplicating a traditional in-person course plan, which inadequately addresses the needs of an online learning environment (Adnan, 2018). As Baran & Correia (2014) noted, “the quality of online programs in higher education is strongly correlated with how the professional development approaches respond to the needs of online teachers” (p. 96). Professional development is important for online instructors so that they may gain a better understanding of online pedagogies and acquire new skills that will help facilitate their instruction. In addition to these reasons, professional development for instructors has a direct connection to the quality of an online program (Adnan, 2018; Bozkurt & Sharma, 2020; Hodges et al., 2020).

Having development opportunities related to technology and social media, such as Facebook, in today’s connected world is essential and expected (Lopes & Porter, 2018). It is important to confidently identify and use technology in creative ways within today’s digital society and critical to this is recognizing that the digital world is constantly changing and evolving, as should an educator’s understanding of those technologies (Coldwell-Neilson, 2018; Lopes & Porter, 2018). Incorporating Facebook and other social media platforms can be beneficial as it can allow diverse and separated groups of people to share knowledge, create content, and gather online to learn and teach (Fedock, et al., 2019; Suebsom, 2015). As social media is used and researched in higher education, students and instructors can perceive social media platforms as meaningful and appropriate for the classroom and used to facilitate discussion and sharing of knowledge (Fedock, et al., 2019; Suebsom, 2015).

Though the demand and utilization of online learning have increased, adoption and development of online-specific professional development have remained a struggle at most institutions of higher education (Baker et al., 2020; Dalton et al., 2019; Donovan et al., 2018; Kebritchi et al., 2017). This was exacerbated by the Covid-19 pandemic and many areas of online teaching, such as quality of the learning experience, logistical and pedagogical issues, and technological concerns, were all negatively impacted (Adarkwah, 2021; Copeland et al., 2021; Day et al., 2021; Fawz et al., 2021; Kapasia et al., 2021, Khalil et al. 2020; Sing et al., 2020). Quality, well-planned professional development opportunities not only provide faculty support but also can create a strong understanding of online learning and the needs of online students (Adnan, 2018). Knowing how to utilize different online pedagogical concepts along with knowing what technology can support those concepts, helps instructors design courses and make decisions on what to include in those courses. This helps to create better courses for students.

Previous cycles of research I conducted highlighted the perceived importance of effective development opportunities by both students and faculty. Both faculty and students alike noted a need for better preparation. Students identified “when instructors don’t know how to share screen or share sound at first, it does hold the class back” as well as “teachers really need more preparation for how to teach students online like how they interact with us and how to help us interact with each other.” The focus group participants noted similar struggles: “Teachers not only have to have expertise in the subject...but also the technology to deliver (it) and an understanding of how to create a productive online learning environment.” And there was even some concession that some

faculty are not a good fit for online teaching: “There are definitely individuals that are just not as suited to teaching online and some there’s some that are still learning and there’s some that are thriving.”

Professional development for online instruction is vital to the success of both students and faculty. Modeling professional development after the environment in which faculty teach will allow them to gain a better understanding of how to build social and collaborative learning environments. Adapting the design and delivery of professional development also allows all adopters of technology, early, moderate, and late, to participate in a way that provides them with the best opportunity for success and learning. When professional development is creative and utilizes technology that allows for more social interaction and humanizing of faculty and students, such as Facebook, the capacity to impact change increases. Not only is professional development imperative for faculty but ensuring that faculty have access to innovative and creative ways to improve the online experience will have positive effects on both faculty and students.

Guiding Theoretical Perspective: Connectivism

Theoretical perspectives are an important part of research. They help organize the ideas and concepts of the research. The first guiding perspective of this study is based on connectivism. Stephen Downes (2006) views knowledge as being made up of both connections and networks. George Siemens (2006b) notes that connectivism is based on creating and forming networks in which we dialogue and learn with others. This perspective sees learning and being educated as having the ability to act in creative ways within the world based on connections (Cronon, 1998; Siemens, 2008). “Connectivism

posits that knowledge is distributed across networks and the act of learning is largely one of forming a diverse network of connections” (Siemens, 2008, p. 10). Siemens (2004) states that the epitome of connectivism is that learning and knowledge are amplified through personal networks. Siemens stresses that more important than what is known today or at any given moment is gaining the ability to learn what may be needed for tomorrow. Of particular interest to Siemens is the need to gain insight on what is needed to successfully learn in the digital age and understand digital learning.

In the digital age and this connected world, connectivism plays off of the shrinking globe, “Relationships are defined by convenience and interest, not by geography. We can work wherever and whenever. Time and space no longer limit global conversations” (Siemens, 2006a, p. 72). These global perspectives provide a context through which learning can be defined. Driscoll (2000) saw learning as “a persistent change in human performance or performance potential...as a direct result of the learner’s experience and interaction with the world” (p. 11). Siemens (2008) sees networks playing a key role in this transformation and feels it has altered society by providing broad access to content and expertise facilitated through global connections with like-minded learners. Finally, as Siemens (2006b) sees it, the focus of connectivism is truly based on linking knowledge sources through these networks and nodes. This goes beyond simply explaining how one forms knowledge internally.

George Siemens wrote about connectivism as a learning theory in the early 2000s, making it a relatively new addition to the learning theory canon. Still, there has been some additional commentary (including critiques) and utilization of connectivism that

help to frame this study. Kop and Hill (2008) noted the learner-centered perspective of connectivism. Learners, not teachers and the school, are seen as the center of the learning experience and they will help determine what content is included in the learning experience in addition to deciding on the communication styles and who can participate. This is a model of learning that acknowledges the shifts in today's society and that learning is no longer simply an internal and individual process (Siemens, 2004; Utecht & Keller, 2019). Beetham and Sharpe (2020) see connectivism as happening between individual learning and learning that happens within the network and how those interactions shape the learning experience for all.

Duke and colleagues (2013) identify connectivism as a learning theory for three reasons. First, connectivism characterizes learning by the perspectives and knowledge gained through networks. Second, given the amount of data and knowledge that exists, it would be impossible for a learner to learn and retain everything. Thus, being able to tap into the knowledge of the learning network is key to understanding learning in today's modern, globalized world. Finally, technology's influence on learning has impacted how traditional definitions of learning theories can be applied. Duke and colleagues (2013) that connectivism is actionable knowledge and therefore understanding where to find knowledge is as important, or perhaps more important, than the knowledge itself. Beetham and Sharpe (2020) note that Connectivist thinkers place heavy emphasis on participation and social interaction and view learning as being critically connected to those two things. Finding new ways to engage learners, therefore, is central to connectivism and modern learning.

Technology and modern mediums of social interaction are also key to connectivism as a learning theory. Modern learners' needs are not being met and are requiring new means by which they gather and disseminate information and, of particular interest, are those models that allow learners to identify new ways to connect to each other and networks (Kop & Hill, 2008; Siemens, 2008). With a daily average of 5.5 billion internet users and almost double that of Google searches (Internet Live Stats, n.d.) technology shapes how we interact with the world. Access to the internet and applications that can be used to disseminate knowledge has helped to transition learning into something that people rarely do alone (Utecht & Keller, 2019).

As Utecht and Keller (2019) also note, the power of the internet and what it contributes to learning is not necessarily the content that can be found but more importantly the connections that can be made with others and the power of collaboration and “in-time” learning. A great example of connectivism is Discord. According to the Discord site (*What is Discord*, n.d.), Discord is used by millions of people to form communities around shared interests. By actively using Discord, users are creating networks that allow them to share knowledge on any topic. Discord Servers are the spaces within the site for users to come together either in open or private spaces. These communities help to support and expand the knowledge of the users participating in these networks. This collaboration highlights the power of collaborative, diverse learning and knowledge sharing.

Utecht and Keller (2019) highlight eight principles of the connectivism learning theory, as developed by George Siemens. The following are most applicable to this situated context (Utecht & Keller, 2019, p. 108):

1. Learning is a process of connecting specialized nodes or information sources.
2. Capacity to know more is more critical than what is currently known.
3. Nurturing and maintaining connections is needed to facilitate continual learning.

Within connectivism, learning communities are described as “nodes.” Nodes are always part of a larger network and work together to share information and may vary in size and function (Downes, 2006; Kop & Hill, 2008). Siemens (2006a) elaborates more on nodes, “Nodes are external entities which we can use to form networks. Or nodes may be people, organizations, libraries, websites, books, journals, databases, or any other source of information” (p. 29). As Siemens (2006a) also notes, learning networks and nodes can be seen as both external and internal. Externally, they can be created to stay current and to continue to develop and enhance knowledge and experiences. Internally, they can be used to create and connect understanding and patterns within the mind.

When Siemens (2004) posited that the ability to know more is more important than what is currently known, he was not describing simply knowing more about what someone already knows. Instead, the focus is on using that knowledge to think critically about what is known, why it is known, and how to expand on it (Utecht & Keller, 2019). Siemens (2004) also the importance of understanding the shrinking time between when one gains knowledge and when that knowledge becomes obsolete, or as he calls it, “the shrinking half-life of knowledge” (p. 1). Utecht and Keller (2019) argue that one of the

most important aspects of this principle of connectivism is that learners must be able to utilize the abundance of information and develop skills that allow them to apply this knowledge so they can truly know more about their current knowledge base.

Connectivism provides a perspective that argues the importance of the shift in modern learning environments away from individual and internal activity (Siemens, 2004). As Utecht and Keller (2019) note, connected and collaborative environments do not happen without nurturing and maintenance. They argue that collaboration no longer just means what happens face-to-face but also what happens across time and space (2019). The internet as it is today facilitates continual learning not simply through the amount of information that is available but also, and more importantly, through the connections and collaboration it creates by bringing individuals together (Utecht & Keller, 2019).

There are some substantial critiques of connectivism. There are two that impact this study. First, the critique that connectivism is not a new theory, but simply a re-framing of other views. Verhagen (2006) points to uncertainty as to what the identity of connectivism is (2006). For him, connectivism is not a new theory because there is not an aspect of the theory that he cannot identify with existing theories. Others have also noted that connectivism is not a new approach. Duke and colleagues (2013) state, “While connectivism is an intriguing development for discussion, it is not a totally new educational approach to learning” (Duke et al., 2013, p. 7). They point out that others have critiqued connectivism as being a part of several other theories (Duke et al., 2013). An example of this overlap would be looking at cognitive flexibility theory (Archee &

Duin, 1995; Spiro, 1991). Focusing on the Connectivist idea of connected knowledge, Archee and Duin (1995) argues that cognitive flexibility theory focuses on multiple areas of content and knowledge, particularly on how interconnected and complex aspects of knowledge.

Siemens (2006b) contends that connectivism is unique due to the shift from internal to external knowledge in the form of networks. Siemens feels this shift is due to the increased amount of information available due to modern technology as well as the information overload that is attached to that wealth of information. He also goes on to state that the centuries-old model of content-central learning has been replaced with knowledge being communicated through dialogue. For him, that shifts understanding from a connection to the content to the process. Knowledge is something that is built upon based on the expansion of prior knowledge or gaining a new understanding of prior knowledge. This is different from other social-based learning theories such as sociocultural learning theory. Shabani (2016) sees a major underpinning of this theory as being based on a mediated process in which artifacts and language play a significant role. He continues by identifying this process as being passed down from a knowledge holder (adult or teacher) to the learner (child or student). Students learn this knowledge and internalize it, moving on once that process is complete. Connectivism, as noted, externalizes this knowledge and builds upon it through the learning network.

Another criticism is that connectivism relies on advancements in technology and that may not warrant it being considered a new theory. Critics state that technology only impacts the methods of learning and instruction (Duke et al., 2013). Though they

acknowledge that connectivism is an important idea surrounding the use of technology in the classroom, it may not be usable and universal across all subjects (Duke et al., 2013). Using an example of a doctor, Duke and colleagues (2013) posit a tradeoff between information and social connections: while looking at a screen may result in the doctor's having information readily available in the middle of an exam, a patient may not want to see their doctor utilize technology to look up information and instead would prefer them to use their experience and knowledge. Faculty, though, embrace seeking out and referencing knowledge. Providing development opportunities based on this Connectivist idea expands their knowledge base through their connected network of peers.

Siemens disagrees with those assessments as well. He notes that the internet has created substantial change in the world and that it functions within its own rules and guidelines (Siemens, 2006b). This is important when considering that learning networks often take place virtually, and previous theories may not be applicable to networked learning (Siemens, 2006b). Facebook, media, and other virtual conduits make it possible for people to externalize both thought and learning in a way that did not exist previously. For Siemens, technology and the internet are not just teaching tools. Connectivism identifies them as central to networked learning and therefore created the need for a new theory.

Given the context of this problem of practice and research, it is important to discuss the Western orientation of education particularly in Connectivist ideas. Young (2014) asserts that the problem with applying Western theories broadly is that they are biased because they are created within the Western context generally for a Western

audience. In research, Young (2014) notes that often research is done using convenient subjects, meaning, Western participants. Connectivism is centered in Western culture and both George Siemens and Stephen Downes are Canadian, which would certainly fit the biased description given by Young.

However, this may not be as large of an issue within this situated context. First, as noted when describing TIEC and its mission, the universities and faculty that participate in these programs are interested in U.S. linkages and strengthening relationships, as well as our higher education model. In addition, not all researchers feel that connectivism's Western roots impact the utilization of the theory in Eastern settings. AlDahdouh (2021) questioned if we knew enough about how Western theories could be applied to Eastern settings and challenged the idea that those theories could not be applied to Eastern settings. AlDahdouh (2021) conducted a study in the MENA region around information search behavior and knowledge sharing. Though there were differences in how information was remixed and repurposed, he concluded that the behavior seen in this Eastern setting was behavior that would be expected from a Connectivist perspective.

Connectivism helps to frame this Problem of Practice because of the role that social, networked learning has in both the need for the professional development of faculty for this specific type of online learning and in terms of the innovation. Creating professional development that addresses the need for social and collaborative online learning rests on both the understanding of the role of technology and the understanding of the need to externalize the learning that comes from that professional development. Technology and communication tools change rapidly and learning how to use them

effectively is an ongoing process. Networked learning helps to bring faculty together to create a network of individuals working together towards continual learning and improvement. The innovation itself utilizes Facebook and other technologies to create a network and provide opportunities for social and collaborative learning which helps in addressing the second research question of this study. Connectivism provides a framing for the Problem of Practice and innovation that highlights the use of technology and networked learning.

Guiding Theoretical Framework: Community of Inquiry

The second theoretical framework this study used was the Community of Inquiry (COI) framework. The COI framework consists of three core elements that work together to provide a learning model for online education. These core elements are social presence, cognitive presence, and teaching presence (Garrison et al., 1999). Though all three elements are present within the COI framework, they do not always have the same priority, and often one presence will be focused on more than the others. For this study, social presence was the primary focus. Social presence is “the ability of the participants in the community of Inquiry to project their personal characteristics into the community, thereby presenting themselves to the other participants as ‘real people’” (Garrison et al. 1999, p. 89). Learning is a social function and through collaboration, network building, and humanizing of faculty and students, online learning environments have the ability for significant improvement.

Even though this study did not focus as much on the other two elements, it is important to understand how they fit into the framework. Cognitive presence is how

students are able to use communication to identify meaning within the COI (Garrison et al., 1999). Teaching presence focuses on two areas: designing the educational experience within the COI and working within the other two presences to focus on educational outcomes (Garrison et al., 1999).

Garrison and colleagues (1999) state that the social context is generally seen as very impactful to learning and outcomes. In addition, if the outcome is seen as deep and critical thinking, then the social context and COI framework are valuable to educators. In this model, collaboration aids cognitive development (Garrison et al., 1999). The final core element is teaching presence, which as noted brings together the social and cognitive elements in a learning environment and experience that work to bring about strong educational outcomes. As noted by Garrison and colleagues (1999) The structure of COI elements and framework can either enhance or take away from the overall learning experience depending on how they are utilized.

deNoyelles and colleagues (2014) review COI as a framework for looking at online discussions and asynchronous learning and communication. “While discussions can be invaluable towards building a COI in an online course, they are not effective if not optimally designed” (deNoyelles et al., 2014, p. 154). This work goes on to provide perspectives on how to take proven strategies and build successful COI. “Applying the COI framework to the design and facilitation of online discussions can guide teachers to strategically create effective, engaging activities that are mindful of environment logistics such as teacher workload” (deNoyelles et al., 2014, p. 155). Much of this work focused on strategies for constructing effective COI through asynchronous online discussions. As

a limitation, deNoyelles et al. notes that although much of what was found looked at enhancing cognitive presence, very little was found about enhancing social presence.

Oyarzun and Morrison (2013) review how the structure of cooperative learning and the community of inquiry work together in online learning. As noted, much of this research conducted around COI and online learning has primarily looked at asynchronous models and noted that social presence was the connector between cognitive and teaching presence (Oyarzun & Morrison, 2013). Noting various literature reviews, Oyarzun and Morrison (2013) call into question “the validity of this framework’s use to ensure deep and meaningful learning that is the claim of the developers of this framework” (p. 185). Oyarzun and Morrison’s work further questions the role of social presence by concluding that “social presence does not impact cognitive presence in any meaningful way” (Oyarzun & Morrison, 2013, p. 185).

Oyarzun and Morrison also indicate that the design and function of the course (teaching presence) impact cognitive presence though it finds that “students believe that they learn more using the COI framework, but the type of learning was actually low-level factual knowledge. Oyarzun and Morrison (2014) note that there were not many studies that provided support for the framework leading to deeper levels of learning, a state “which brings us to question the effectiveness of the community of inquiry framework” (p. 186). Through using cooperative learning, Oyarzun and Morrison (2013) hoped to show effectiveness in creating COIs in online environments that were similar to face-to-face environments. As they concluded, this study did not accomplish that. They argued that using these cooperative learning strategies to increase social presence could help

build communities of inquiry and reduce isolation in online students (Oyarzun & Morrison, 2013).

The Community of Inquiry framework has direct applicability in addressing the Problem of Practice and developing the innovation. By focusing primarily on social presence when developing the innovation, the structure of the innovation will require participants to engage with each other on ways to increase socialization in these diverse, asynchronous communities by modeling the context that focuses on social presence. Participants will be asked to engage in different ways using video, audio, group discussions, and peer feedback forums. The first research question specifically looks to address how participating in this innovation helps faculty learn about and ultimately apply social presence techniques in their online classes. This framework is ideal for addressing these concerns in a way that highlights the social aspects of learning and collaboration.

Application to this Study

Both Connectivism and the Community of Inquiry framework have implications for online learning in general and this problem of practice specifically. Both the theory and framework have some common, central themes around the design of the learning environment and the sense of community and belonging of the learners. This study was built upon the ideas found in connectivism and those concepts helped to shape the innovation. Connectivism helped to shape how the participants in this study interact with each other within the innovation. By working together and creating a network, participants interacted in a learning environment that promotes external learning which

allowed them to focus on learning the most applicable lessons while knowing where to find additional knowledge later on. Connectivism's focus on technology and innovation also shaped how Facebook and virtual resources were used not only within this innovation but also in the participants' own context. By focusing on the COI framework in general and social presence specifically, this study and innovation provided insight and learning opportunities around creating social and collaborative virtual learning environments. In addition, focusing on social presence techniques and humanizing the faculty and students within the virtual environment, the innovation had an impact on how the participants view online learning and online classrooms.

Creating rich, experience-based learning opportunities, both online educators and the educators impacted by this problem of practice should find that students can be met where they are and their readiness for additional learning will be identified. Teaching presence is a key element of the COI framework and aside from designing educational experiences, another main goal is to bring about a stronger connection between the cognitive and social presences. By strengthening the connection between cognitive and social presences, and doing so within deliberate learning activities, the online educational experience would provide rich, social experiences that enhance the understanding and retention of the content being taught.

The other large implication for both online learning in general and this problem of practice specifically is centered on the social aspects and functions of learning. As pointed out in Connectivism, education is social and network based. It does not happen in a vacuum without any type of interaction. Building up the social presence and the sense

of being “real” in the online environment is a key part of the COI framework. Both aspects of the social nature of education are areas that online learning environments struggle to achieve. However, both Connectivism and the Community of Inquiry framework have key components that not only identify the importance of connected learning but also provide a solid framework for how to achieve social learning through the design and function of online courses and networked, online learning environments for diverse learners.

Being able to embrace new, connected learning environments and experiences can have a positive impact on the potential for meaningful learning and engagement for both students and educators alike (Utecht & Keller, 2019). Professional development opportunities that engage and expand upon a connected, networked, and social learning environment will be key and showcase how the knowledge that exists within a community is heavily related to the opportunities that are present for members of the community to engage in knowledge-building activities and related work (Siemens et al., 2020).

The previous research that was completed connects this related scholarship with the problem of practice. One participant noted that teaching is changing: “Certainly we’re beyond the time when we’re doing classes that are completely lecture-based. Where it’s just a person of authority lecturing at students and telling them what to do. We’re beyond that. We’re in this discussion mode.” They continued by discussing how students are changing: “I think the TikTok generation, the attention span might be a little shorter. As I said, succinct answers...you’re getting a lot of information, very quickly.

They can absorb information a lot faster.” Delivering information in chunky, digestible lectures, known as micro-lectures, became a popular delivery method during the pandemic and has proven to be a successful way to record and disseminate information in easily accessible and useful ways (Liu & Luo, 2021; Wang et al., 2021; Wijaya & Weinhandl, 2022; Yang et al., 2017)

Another participant stated, “Something to think of when you’re designing coursework, and I tell this to teachers...a lot, we have to remember that we’re now in an age where information is at our fingertips. They (students) assume that they have access to the answers that they need,” a perspective which changes how faculty teach students. The participants argued that faculty need to learn that they are no longer the gatekeepers of this information and to summarize one participant, students now remember where they can access information, not necessarily remembering the information specifically.

As Siemens and colleagues (2020) state, “the bulk of our challenges right now aren’t technological, the way they were in the past” (p. 114) but instead are developing social and connected learning environments that reach diverse audiences and can contribute to the knowledge-building process. This builds off earlier work where Siemens (2006b) posits that there is a new oppressed group in the digital divide: those lacking access to the tools that would allow them to participate in the global conversation, and those lacking the skills to contribute to the global conversation. From the perspective of more current affairs, connected learning networks could also help overcome government-initiated firewalls that impact a citizen’s ability to access certain platforms. These ideas around professional development needs and building connected learning networks

support this problem of practice and provide a context and conceptual framework for the study and innovation.

CHAPTER 3

RESEARCH DESIGN AND METHODS

“The more research you do, the more at ease you are in the world you’re writing about. It doesn’t encumber you; it makes you free.” — A. S. Byatt (n.d.)

This chapter reviews the purpose of this study and research questions and provides the context for this study. In addition, this chapter discusses the intervention and provides the data sources, instruments, and data collection that were used with the intervention. The data analysis methods are highlighted along with the timeline and additional considerations for this study.

Review of the Purpose of this Study and Research Questions

To review in short, this action research explored how participation in Supporting Online Connections to Improve Asynchronous Learning (SOCIAL) helped create virtual learning environments that provided opportunities for social interaction and learning within the participants’ diverse contexts. As noted previously, this research also sought to identify if providing this development within the same educational context (virtual, asynchronous, and diverse) would impact the participants’ ability to develop and deliver similar virtual learning experiences to their students.

RQ1: For college faculty who previously participated in TIEC development/training and choose to participate in SOCIAL, how does that experience drive their application of social presence techniques in their classes?

RQ2: For college faculty who previously participated in TIEC development/training and choose to participate in SOCIAL, how does that experience advance their knowledge and utilization of techniques to create similar learning environments within their own contexts?

RQ3: How does utilizing social presence techniques in the delivery of SOCIAL impact the effectiveness of SOCIAL as a form of asynchronous professional development?

Settings and Participants

The purpose of this section is to highlight the setting of this research innovation and why it was chosen. In addition, this section highlights the participant pool from within the Online Global Community as well as demographic information for the participants of this action research study and innovation.

Setting

The setting of this study happened within TIEC's Online Global Community (OGC). The OGC consists of over 500 members who have previously participated or are currently participating in some of TIEC's professional development. The OGC members are from universities located in various parts of the world. The TIEC website (n.d.) notes that the organization has worked with schools in the MENA (Middle East North Africa) region, Asia, Europe, and Latin America. The OGC serves as a viable medium for the participants to continue to communicate and collaborate with each other despite their geographical differences.

This setting was chosen because the virtual environment is accessible to the participants and can mimic some of the struggles students face in virtual environments. Learning happens best in an environment that allows learners to solve problems and complete tasks in ways that emulate the environment these tasks would take place in professionally (Lave & Wenger, 1991; Lopes & Porter, 2018). As Collins and colleagues (1987) suggested, students learn best when they learn through observation and modeling and that learning through imitation in an environment that enables learners to gather knowledge and skills is best done in the environment in which these skills would be applied. Finally, as Leslie (2019) found in her study, faculty appreciated learning in the way their students learned. The faculty felt it gave them a perspective they did not have previously and helped them better identify and understand the struggles online students face in the virtual classroom.

Participants

The members of the OGC, though they are geographically and culturally diverse, do have some important similarities. First, each member of the OGC has a connection to TIEC. The administrators and moderators within the Facebook group are professionals affiliated with TIEC and are granted administrator privileges through the organization. They provide support and serve as moderators for various open-forum discussion prompts. They also ensure that members adhere to the rules of the OGC. Finally, they approve all new members and review posts and comments.

The OGC members, aside from TIEC affiliates, are individuals who have completed or are currently engaged in various TIEC professional development programs.

Per the group analytics from Facebook, 54% of the OGC members are female and 46% are male. Approximately 63% of members are from the MENA (Middle East/North Africa) region, 30% of the members are from Asian countries, and 7% of the members are from the Americas. The group administrators posted a poll in March 2022 asking participants what they were hoping to achieve by participating in the OGC. 57 members responded and 68% of the responses were for either collaborative learning opportunities (35%) or creative professional development opportunities (33%). The remaining responses were for peer connections (26%) and having a place to celebrate success (5%). Member activity includes original posts and content sharing (including link sharing, image/content sharing, and videos), interacting with moderator prompts and other participants' posts, and typical Facebook reactions via the provided reaction options found within the platform.

Location and Experience

The next section describes the recruitment process, but one feature of the recruited participants for this study is tied to the setting and deserves note here. Geographically, the participants for this innovation were from the MENA (Middle East North Africa) region. Table 1 showcases the home countries of the participants. Though over 70% of the participants identified Egypt as the country in which they teach, there was no indication within the group or during conversations that many of the participants knew each other outside of their experience with TIEC, OGC, and SOCIAL. One of the participants from Algeria noted that they had hoped to connect with another participant that stated they were also from Algeria, however, it unfortunately never happened.

SOCIAL participants often referred to each other as “colleagues” and “friends,” which showcases a very strong virtual connection.

Table 1

Country in which each participant teaches.

	Frequency	Percent	Cumulative Percent
Algeria	2	10.5	10.5
Egypt	13	68.4	78.9
Egypt and Dubai	1	5.3	84.2
Iraq	1	5.3	89.5
Jordan	1	5.3	94.7
Tunisia	1	5.3	100.0
Total	19	100.0	

Participants were also asked to describe their education and teaching experience prior to starting SOCIAL. 68% of participants indicated having a Baccalaureate degree while the other 32% indicated having some degree of advanced training as well. The group’s years of experience ranged from 10 to 30 years with approximately 63% of the participants having 10 to 20 years of experience. The group was mixed with educators and administrators and therefore not every participant was actively teaching in a classroom setting. That being said, 79% of the participants taught 1-4 courses per term. “Term” was not defined in the survey so as to allow participants to use their own context’s definition. This data helps to identify an experienced participant group that is actively engaged in their contexts. This is also consistent with the “middle” group of educators seeking out professional development opportunities to refine their teaching and learning.

Recruitment

This section describes the processes through which the participant pool was identified as well as how that pool is representative, or not, of the larger OGC group. As well, the recruitment methods are outlined along with the criteria used in the selection process.

Identification of Participant Pool

I recruited participants based on their membership in the OGC. I worked with the TIEC team to verify whether participants currently or had previously participated in a TIEC program, however, the TIEC team was not involved in recruitment efforts. Participants in both TIEC and the OGC are a specific group of educators. They are educators who have decided to seek out professional development opportunities and continue to actively participate in various informal development opportunities and networking through the OGC. Though this may not be a statistical representation of the larger body of educators, this group of participants will represent a core group for this study: global educators actively seeking continued professional development and networking opportunities via social media.

Recruitment Methods

I recruited from the OGC and sought to recruit 15-20 participants for this study. Participants were invited to participate based on either currently working with the TIEC team on an action plan to improve online education within their context or have recently completed a TIEC program and for whom this innovation would benefit based on their context and focus of their professional development goals. Once the potential participant

pool was identified, I used approved IRB recruitment materials in order to gather interested potential participants. The eligibility criteria for participation in the research were as follows:

- Current or former TIEC professional development participant
- Membership in the Online Global Community
- Willingness/ability to work within another closed Facebook group.
- Hold a role as faculty or administration such as an academic dean or program chair. Participants from areas such as professional support and adult education could be considered as well.
- Desire and ability to implement what is learned in an online course or virtual learning environment.

Procedures

This study was conducted asynchronously using Facebook as the social media platform. Given that TIEC's Online Global Community (OGC) is already working within Facebook, this was a familiar space for the participants. The Facebook group was a closed group, by invitation only, and was only accessible to the researcher and participants. The group housed all materials that were used for the innovation. Students were given links to any forms, surveys, videos, and/or external resources needed in the course of the innovation.

The goal of SOCIAL was to create a virtual, collaborative learning opportunity that was fully contained with a virtual, asynchronous learning/social environment. SOCIAL incorporated Connectivist approaches to knowledge building and introduced,

through content and experience, social presence. This learning opportunity consisted of three distinct sections. Participants were asked to participate in all three sections as they built on each other and assisted the participants in reaching the overall goal of developing their skills around creating supportive and collaborative learning environments that place emphasis on the social aspect of learning and social presence techniques. A secondary goal was to enhance their network of knowledge pertaining to online learning and teaching.

SOCIAL used various techniques to enhance social presence and network-building within the group participating in this innovation. Instead of writing prompts, videos guided the participants through their journey in each section. Participants were asked to utilize video for various parts which encouraged personal interaction and personal approaches to providing feedback. The nature of the group being on Facebook brought a personal aspect to the participants, and they were encouraged to be as open as possible with their work in each section and also with sharing their successes and struggles as they navigate through the material.

Participants concluded this learning opportunity having met three main objectives. First, they completed a situational capacity analysis of their professional context, particularly pertaining to the advancement of online learning. Second, they helped curate a list of best practices and ideas that will help them increase their social presence in their virtual communities. Third, they developed and gained feedback on an implementation strategy that they could apply to their courses and/or virtual learning environments. Additionally, participants were exposed to the real-world application of these strategies

through their participation. They also developed a network of knowledge that could help them advance their virtual learning agendas.

This online learning opportunity embraced the Facebook platform as much as possible. Instead of being called a workshop or professional development, participants in SOCIAL experienced this online learning opportunity through a series of asynchronous, virtual “events.” These three events corresponded with the three sections of SOCIAL.

First Event

The first event served as a foundation on which the rest of the innovation was built. Not only did it provide an opportunity for the participants to assess their starting point, but it also provided them exposure to social presence and the ability to actively participate in building their own social presence in the group. By sharing their assessments and context to the group, they had an opportunity to do so in a way that humanized each participant. They did so by using imagery, video, and/or audio mediums.

Topic. The first event of the innovation focused on the participant’s situational context. Of particular interest is the participant’s professional context and the ability to implement new technologies and strategies as well as how much support the participant has, or does not have, to implement change. In order to develop and implement change, participants needed to assess their context and develop an understanding of the support and resources available to them.

Goal. As noted, this section focused on two particular areas and therefore had two main goals. The first goal was to assess the ability to develop and implement new technologies and teaching/learning strategies within the participant’s situational context.

For the participants to gain the most insight from the innovation, they needed to understand what is within their ability to implement. The second goal was to help the participant assess and understand the support system within their context. This was different for each participant due to varying school administrative policies, budgets, and staff resources. In addition, the participant needed to factor in their own role. For example, if the participant was not in a supervisory or administrative role, did they have support from their administration? This was an important question for them to answer and was tied to the scale and scope of their proposed action plan.

Action. For the first event, participants completed the “Situational Capacity Assessment” (SCA). The SCA asked participants to focus on three main areas. The first part focused on their role and limitations. By describing their role and assessing their capacity for being a change agent, they developed a starting point for their action plans by determining first what is within their control and what they can do on their own. The second part focused on the environment in which they teach. They were asked to evaluate their institutional capacity for implementing new technologies, technology support, availability of funds for improvements and implementation, and curriculum and academic support. It was necessary for each participant to understand the limitations of their environment, especially if they were planning to implement new technologies or required support for their action plans. The third part focused on the support of the administration at their institution. If the participant was not in a role that would allow them to approve the implementation of a plan, they had to develop an understanding of who could assist them and what their willingness was to provide that assistance and support. This was very

important if there were costs associated with their action plan or if their proposed plan fell outside of the structure or regulations that were in place at the institution.

Interactions. The final part of this event focused on interactions among participants within the Facebook group platform. After the participants completed their SCA, they were asked to provide a brief description of what they found and the areas they will need to address as they move forward. They were encouraged to create videos or voice recordings if they have the technology to do so. Other participants were encouraged to provide any feedback or ideas that they had to help overcome the identified issues. This was designed to begin the development of a network of engaged learners and was a common aspect of all events.

Second Event

The second event continued to develop a more conceptual understanding of social presence and accomplished this in a way that introduced and incorporated connectivism concepts. As the participants worked collaboratively on the objectives, they experienced the Connectivist concept of networked learning and knowledge sharing. These nodes were the support as they built their understanding of the conceptual aspects of social presence.

Topic. The second event focused on introducing participants to the concept of social presence and allowed them to develop and share ideas on how best to incorporate and promote social interactions in their virtual communities. Of particular interest was to not only provide information about social presence but to also demonstrate it through the format and engagement within this event. The participants learned about social presence,

experienced it in use, and engaged with each other on creative ideas on how to increase social presence. In addition, this section introduced the action plan that would be completed by the end of the third event.

Goal. There were three main goals of the second event. The first goal was to provide the participants with information and prompts that helped them create a list of social presence techniques and ideas as a group. This allowed the participants to continue building their network and expand their shared knowledge base. The second goal was to expose the participants to social presence techniques within the event. A particular focus was on the collaborative nature of this section. In order to accomplish this, participants were asked to engage through collaboration tools, humanize themselves in the virtual environment, and work creatively within the asynchronous platform. The third goal was to introduce the action plan and have the participants begin formulating their ideas and utilize the time in this event to gain feedback and insight into how they may use these strategies in their action plan and in practice within their context.

Action. In this event, participants had three main action items. First, they needed to learn about social presence. They were presented with curated resources that included reading materials and videos. These resources were housed in the Facebook Group resources and included notes on what the resource was focused on and what sections to read or watch. The idea was to provide them with the exact places within the resource they can go to learn about social presence while also providing them with the entire resource for further use if they choose to do so later. Second, participants were asked to collaborate within a Whiteboard space and begin drafting their social presence best

practice list. They were tasked with not only creating the list but also providing examples of how it can be utilized. Participants did not complete this task and instead worked together in groups to discuss and formulate ideas around social presence techniques. This was unknown to the researcher until interviews were conducted. Finally, participants began developing their action plan ideas. Though the action plan itself was the focus of the third event, participants reflected on their experience with networked, shared knowledge as well as how that helped shape their understanding of these techniques. This happened in their small, self-created groups, group chats, and posts.

Interaction. The focus of the group interaction in this event was on the development of the best practice list within the Whiteboard. Participants were encouraged to take this beyond just a list-generating activity and work collaboratively to apply these ideas and techniques to either hypothetical situations or their own contexts. The idea was that as they developed this list and collaborated on implementation ideas, they would enhance their learning network and use their individual and shared experiences to promote learning that is more in-depth than if they were completing the tasks individually. Again, though this did not take place on the Whiteboard, it did take place in their groups and in chats.

Third Event

The third event incorporated both the content and experiences of social presence they had during the first two events to help formulate their action plan. As with the first event, they demonstrated social presence by sharing and humanizing their plans using the various mediums available to them within the Facebook group. In addition, they

continued to participate in their connected network and leverage their shared knowledge to edit and finalize their action plans.

Topic. The final event focused on completing their action plan which included a proposed implementation plan. The participants were provided a template for their action plans during the previous event. Participants were asked to implement their action plans within the time frame of this experience, so a complete implementation plan will be important to gather feedback from their fellow participants. Some participants, though, did begin to implement some or all of their action plan during the course of SOCIAL. Participants utilized the work they completed in the first and second sections to assist in building their action plans.

Goal. The goal of this event was to utilize the Situational Capacity Assessment and the social presence technique list, along with the feedback from fellow participants, to develop their action plans and map out an implementation plan. Since participants, in general, would be implementing this plan during the course of this innovation, the focus was on completing the plan and gathering feedback so they could feel confident presenting their plans within their context and implementing their ideas in their virtual courses.

Action. Participants continued working on their action plans from the second event and worked on an implementation plan. The template included space for both the action plan and the implementation plan. Similar to the first event, participants were asked to provide the group with a brief overview of their action plan and implementation

plan. They were encouraged to use creative presentation techniques and were also asked to provide a full draft of their plans for the group to review.

Interaction. Participants focused their interaction for this event on providing both feedback and implementation ideas on their fellow participants' plans. Participants were encouraged to use some of the social presence techniques developed in the second event when providing feedback. The goal of this type of interaction was not only to provide feedback but also to maintain the social and collaborative connections that have been established within this innovation and group.

Cultural Considerations

Given the diverse potential population for this project, there are cultural factors that were considered as well as potential advantages of this diversity. It is important to reinforce that the potential participants have sought increasing experiential knowledge of American-style higher education through their TIEC programming and participation. This does make blanket cultural considerations tricky to identify and the goal of this study, as it pertains to cultural considerations, was to ensure participants are provided with multiple options for participation in SOCIAL. For example, with the focus on humanizing interaction, options for either video or audio only were provided in the event there are modesty considerations for participants. Participants could also address any cultural considerations needed as they completed their Situational Context Assessment which allowed them to be proactive in planning their action plans.

There were advantages to the diversity in the population. First, gender diversity and the perspectives that come with that were valuable in this study, particularly for those

participants that were in areas that have historically struggled with gender diversity. In addition, the differences in how students and faculty generally interact were valuable to this study as it brought a different relationship dynamic to both the Connectivist and community of inquiry approaches. Finally, a diverse group of participants challenged the typical understanding of social presence and provided insight into what those techniques look like within their culture and environments.

Timeline

This research innovation took place during the Spring semester of 2023. IRB approval was granted in December 2022 and recruitment for SOCIAL took place in January 2023. Given the various geographic locations, technological differences, and cultural differences, there needed to be some consideration given to the time commitment of participants. Participation in SOCIAL took place over the course of two months, and an additional month was set aside for continued data collection. Analysis of data began after all of the data collection was completed in May 2023. Data analysis took place in May and June 2023. The research timetable is presented below.

Research Timetable

Table 1
Research Timetable

Date	Activity
December 2022	Research approved, IRB materials submitted and approved
January 2023	SOCIAL recruitment
February 2023	Event 1, Event 2
March 2023	Event 3, Wrap-up SOCIAL
March/April 2023	Data Collection
May/June 2023	Data Analysis

Research Methods, Data Collection, and Data Analysis

In this section, I outline the research design, data collection and instruments, and data analysis methods. This action research focused on using both quantitative and qualitative methods in order to gather comprehensive data that provided a valid and complete understanding of the innovation's impact. The study used a convergent parallel mixed methods design. This approach was the most appropriate research design due to the holistic aspect of the research questions. The RQs were structured to gain information that builds on both past experience in TIEC and the experience within the innovation. All data collected was considered equally and analyzed as such. In a convergent parallel design, quantitative and qualitative data is collected concurrently, and researchers analyze the data independently, and then researchers compare and synthesize the data in order to interpret the results (Plano Clark & Creswell, 2015). Both quantitative and qualitative data had equal priority in addressing the research and purpose of the study.

Quantitative Instruments

There were two types of quantitative data collection methods used. First, participants took a pre-innovation survey assessing their self-perception of online teaching ability, their connection to social presence concepts, and their utilization of social presence techniques in their online classrooms. The pre-innovation survey (see Appendix A) was beneficial in determining the starting point for each participant as they began the innovation. The survey included demographic information that helped identify information about the participants such as the country where they teach, participation in

and frequency of professional development, primary teaching medium, and years of teaching.

In addition, the survey focused on three constructs. The first was self-perception of online teaching ability. This provided data on how the participants viewed their ability within the online learning environment as a starting point prior to participation in the innovation. The second construct was the connection to social presence concepts. Gathering a pre-innovation understanding of their connection and understanding of social presence concepts helped provide data on how that changes post-innovation. The final construct was the utilization of social presence techniques. This construct, in this pre-innovation survey, helped determine first if they were already using some of these techniques and second provided insight into how they understand social presence in relation to the questions in the second construct. For example, the participants could indicate they do not have a connection to social presence and yet indicate they use the techniques often, or vice versa.

Second, participants took a similar post-innovation survey (see Appendix B) to gain an understanding of how their perceptions changed and how participating in the innovation impacted their understanding of the constructs being measured. Additional questions were asked directly related to the participant's action plans as well as how the participation in the innovation changed the participants' assessment of their self-perception of online teaching ability, their connection to social presence concepts, and their utilization of social presence techniques in their online classrooms. Additional

constructs of advancement of knowledge and applying their experience to their contexts were analyzed in this post-innovation survey.

Both of these surveys used Likert scales adjusted for the various constructs measured. The post-innovation survey also included open-ended questions used to gain insight into the participants' understanding of the concepts and techniques they were exposed to during the innovation. Having pre- and post-survey responses helped to analyze the perceived impact of the innovation. Surveys were deployed using Qualtrics software.

Qualitative Data Collection

Qualitative data was collected from artifacts from the innovation such as Situational Capacity Assessment (Appendix D) and Action Plan (Appendix E). Researcher observations based on the prompts and interactions found within the Facebook group over the duration of innovation were also used. Given the asynchronous nature of the innovation, this data served as valuable qualitative data with discussions and questions shaped through prompts provided to the participants and also the participants' various postings, discussions, and videos. Even though this was asynchronous, there were opportunities to have virtual, one-on-one interviews as well with three participants. Another participant completed a questionnaire due to connectivity issues. These interviews allowed the participants to express their feelings on the work, discuss struggles or implications they may perceive within their individual contexts, and provide feedback on the process of the innovation. It also allowed for discussion of the various

participant artifacts and to solicit more information about them from the participants. The post-innovation interview protocol can be found in Appendix C.

Analysis of Quantitative Data

The quantitative data was analyzed using SPSS (Statistical Package for the Social Sciences). Descriptive statistical analysis tests were run to review and compare the various demographic information and other data gathered in the survey. This information was valuable as it gave information as to the background, education, and teaching experience of the participants. Comparative analyses were completed between the descriptive statistics of the pre- and post-innovation surveys to determine the perceived change and any correlation to the participation in the innovation.

Analysis of Qualitative Data

The qualitative data will be analyzed using inductive analysis and qualitative analysis software. By using an inductive approach, the data will be reviewed and then grouped into codes. This analysis used a layered coding of In Vivo, Focus, and Pattern coding to gain insight from the interviews. Coding was completed using the Atlas.ti software. It was important to begin with In Vivo coding since the native language of all the participants was not English. Retaining their voice while gathering clarity was very important. The coding process is described more in Chapter 4. Artifacts and other data were analyzed using a modified 8-step content analysis based as presented by Schreier (2014):

1. Deciding on a research question.
2. Selecting material.
3. Building a coding frame.

4. Segmentation.
5. Trial coding.
6. Evaluating and modifying the coding frame.
7. Main analysis.
8. Presenting and interpreting the findings.

Participant validation, or member checking, was used at the completion of the analysis of the qualitative data. This technique helped to review the overall results of the qualitative research with participants to validate the analysis based on their perception of the experience.

As Plano Clark and Creswell (2015) noted, the convergent parallel design allows for the datasets to be analyzed individually and then compared and synthesized. Once sufficient tests and coding were completed, both quantitative and qualitative data were analyzed together by using triangulation methods to interpret all the data together and help synthesize the results. This design method allowed both the quantitative and qualitative data to support each other in the analysis of the data but was not used to build on or direct the other data collection method.

Alignment Table

Table 2
Alignment Table

RQ	Data Source	Analysis
RQ1	1. Pre- and Post- innovation Surveys	1. Descriptive statistics
	2. Innovation artifacts (group posts, action plans, situational capacity assessments)	2. Content Analysis
	3. Researcher observations	3. Content Analysis
	4. Participant interviews	4. In Vivo, Focus, and Pattern Coding
RQ2	1. Pre- and Post- innovation Surveys	1. Descriptive statistics
	2. Innovation artifacts (group posts, action plans, situational capacity assessments)	2. Content Analysis
	3. Researcher observations	3. Content Analysis
	4. Participant interviews	4. In Vivo, Focus, and Pattern Coding
RQ3	1. Pre- and Post- innovation Surveys	1. Descriptive statistics
	2. Innovation artifacts (group posts, action plans, situational capacity assessments)	2. Content Analysis
	3. Researcher observations	3. Content Analysis
	4. Participant interviews	4. In Vivo, Focus, and Pattern Coding

Validity and Reliability of this Study

Steps were taken to assess the validity and reliability of the study and data collection methods. Content-based validity of the surveys and interview instruments was measured by sharing them with online learning professionals outside of this study. The group consisted of a Chief Academic Officer and Vice President of Academics with significant background in online education, a Director of Education with a Doctorate in Education focused on adult learning, and two online educators currently teaching online courses. There were no concerns regarding the instruments and all agreed that the questions were appropriate to the constructs and assessment criteria.

To address reliability, SPSS was used to calculate Cronbach's alpha for the four constructs to determine the internal consistency. Reliability was calculated from the responses of the research participants. All constructs have an acceptable reliability value and indicate the questions for each construct are internally consistent and correlate well with each other. The non-Likert-scale questions were not analyzed because they were demographic in nature or questions related to technique usage (how often they used specific social presence techniques, for example). Table 3 shows the breakdown by construct.

Table 3

Reliability Statistics: Self-Perception of Online Teaching Ability	
Cronbach's Alpha	N of Items
0.79	8

Reliability Statistics: Connection to Social Presence Concepts	
Cronbach's Alpha	N of Items
0.90	12

Reliability Statistics: Advancemet of Knowledge by Participating in SOCIAL	
Cronbach's Alpha	N of Items
0.82	4

Reliability Statistics: Application of this Experience to Professional Context	
Cronbach's Alpha	N of Items
0.78	4

Role of the Researcher

Within this innovation, I facilitated learning through the various curated content and task assignments. In addition, I guided the participants in their journey through the innovation while also prompting the participants with questions and other interactive opportunities. It is important to note that I had no supervisory role over the participants and is only in a support role within the TIEC context. Throughout this study, it was imperative to ensure that the participants and data were viewed objectively given the nature of this researcher role.

Ethical Considerations of this Study

Arizona State University's Institutional Review Board (IRB) protocols were reviewed and followed upon approval in December 2022. All participants had the ability to end their participation at any time for any reason. I followed all best practices when reporting on the research data which included, at a minimum, pseudo-names and the removal/changing of any identifying information of the participants.

The group participated in the innovation within a closed, Facebook group. Only the researcher and participants had access to the group. Once all data was collected, the group was closed and archived. It was necessary to ensure all participants understood that there would not be total anonymity in their participation since the other participants will be able to see their identifying information in the Facebook group. Participants were reminded and encouraged to review their privacy settings on their Facebook profiles. A code of conduct for participants was included in the recruitment process.

CHAPTER 4

DATA ANALYSIS AND RESULTS

“I liked making connections in this experience [SOCIAL]. You gave us a lot of options to connect and discuss things. Now, with my students, as I told you before, I try to make a connection between them.” — SOCIAL Participant

The preceding three chapters described this problem of practice and contextual placement, the theoretical perspectives used to frame this study, and the methods used to build this study and implement Supporting Online Connections to Improve Asynchronous Learning (SOCIAL). This chapter focuses on the data analysis and results from the data collected as described in chapter 3. I collected and analyzed qualitative and quantitative data using a convergent parallel mixed methods design, where data is then analyzed independently, and then compared and synthesized to interpret the results (Plano Clark & Creswell, 2015).

This chapter presents the data in two distinct ways. First, data is presented to provide information on the participant group that is pertinent to the study as well as offer some pre-innovation perspective into how the participants viewed themselves as online educators and their utilization of various social presence techniques. Second, the data is presented in three sections that focus on themes born out of the data analysis: knowledge sharing, connection building, and benefits to professional development. Both qualitative and quantitative data are combined in each theme section in a way that supports the theme with data from all types of data collected in this study.

The themes flow in general from my efforts to answer these research questions (RQs):

RQ1: For college faculty who previously participated in TIEC development/training and continue by participating in professional development within a virtual, collaborative, social learning environment, how does that experience drive their application of social presence techniques in their classes?

RQ2: For college faculty who previously participated in TIEC development/training and continue by participating in professional development within a virtual, collaborative, social learning environment, how does that experience advance their knowledge and utilization of techniques to create similar learning environments within their own contexts?

RQ3: How does utilizing social presence techniques in the delivery of SOCIAL impact the effectiveness of SOCIAL as a form of asynchronous professional development?

Quantitative Participant Group Data

As noted in the previous chapter, I selected participants from the TIEC Online Global Community (OGC) Facebook group. These participants are individuals who have completed or are currently engaged in various TIEC professional development programs. In the pre-innovation survey, I asked participants demographic questions to help gain an understanding of the group's geographic makeup as well as some insight into their various teaching experiences. The participant group had 20 original participants, with 19 participating in both pre- and post-innovation surveys. (All of these 19 participants

participated in SOCIAL.) Five participants volunteered for post-participation interviews. I interviewed 3 participants live, and one participant through a detailed questionnaire by email due to connectivity issues. The fifth participant was not interviewed because of scheduling conflicts.

Self-perception of Online Teaching Ability

One of the constructs in the pre-and post-innovation surveys was self-perception of online teaching ability. I asked participants to answer questions related to this construct using a 6-point Likert scale (1- Strongly Disagree, 2- Disagree, 3-Somewhat Disagree, 4- Somewhat Agree, 5- Agree, 6-Strongly Agree)--an anchored scale used for most of the items in the survey. The questions can be found in Appendix A and Appendix B and are used to provide insight into the participants' views regarding their online teaching ability both before and after participation in SOCIAL.

I ran descriptive statistics on both the pre-and post-SOCIAL participant responses for this construct which can be seen in Table 1. Overall, there was no notable difference between the pre-and post-innovation means. The means for the pre-and post-SOCIAL responses were aligned with the “agree” response concerning the participants' self-perception of online teaching ability. Without a discernible difference between the pre-and post-innovation responses, it is impossible to identify what, if anything, in the experience changed their self-perception of online teaching ability. It is important to note, as seen in Table 4, with the pre-innovation survey's mean above 5, this group already had a strong assessment of their online teaching abilities.

Table 4

Descriptive Statistics: Self-Perception of Online Teaching Ability

	Minimum	Maximum	Mean	Std. Deviation
Construct: Pre-Social Self-Perception of Online Teaching Ability	1.8	6.0	5.1	1.0
Construct: Post-SOCIAL Self-Perception of Online Teaching Ability	1.0	6.0	5.3	1.2

n=19

Utilization of Social Presence Techniques

The construct of the utilization of social presence techniques was included in the pre-innovation survey to gain an understanding of what types of social presence techniques the participants were utilizing, if any, before they participated in SOCIAL. The participants responded using a Likert scale anchored to frequency labels: 1- Never, 2- Rarely (1-2 times per term), 3- Sometimes (3-5 times per term), 4- Often (6-10 times per term), or 5-Very Often (10+ times per term). “Term” was described as an academic period similar to an American semester or quarter. The list of questions for this construct can be found in Appendix A.

Descriptive statistics on this construct appear in Table 5. The mean of the construct indicates that most participants either rarely or sometimes used social presence techniques in their professional contexts. Given that the participants resided and worked in the Middle East/North Africa region with many local customs around imagery and modesty, some of these techniques may not be as widely used. Throughout the events, participants often brought up technology and connectivity issues. In addition, given the scheduling and deadline struggles that became evident during the event due to the timing corresponding with the Muslim holy month of Ramadan, being in predominantly Muslim communities often can impact the use of visual media (images, video, etc.). All of those

nuances considered, the responses do indicate a general lack of utilization of these various social presence techniques before participation in SOCIAL.

Table 5
Descriptive Statistics: Utilization of Social Presence Techniques

	Minimum	Maximum	Mean	Std. Deviation
Construct: Utilization of Social Presence Techniques	1.6	4.6	2.8	0.9

n=19

Themes from the Data Analysis

As noted, the majority of the data analyzed have been brought together under three main themes. Data triangulation was utilized to synthesize both qualitative and quantitative data from various sources within each theme section. Contributing to each theme are qualitative data from the post-innovation interviews, posts within the SOCIAL Facebook group, my research journal, and participant artifacts such as the Situational Capacity Assessment (SCA) and the Action Plans completed by participants. Quantitative data comes from the pre-and post-innovation surveys.

I analyzed qualitative data in several ways. For post-participation interviews, I employed a coding technique that layered different coding methods to gain multiple layers of insight. For the first-cycle coding, I used In Vivo coding to acknowledge and retain the voice of each participant (Saldaña, 2021). This technique was valuable because English was not the primary language for any of the participants. Therefore, it was important to have a method that would allow for the preservation of the participants' intended responses while navigating through struggles that are present when speaking in a language other than your primary language. I then applied Focus Coding to identify

categories within the interview data. Finally, I used Pattern Coding to produce the themes discussed in this section. I used Atlas.ti coding software to aid in this analysis of the interview data. In addition, I analyzed the interactions within the SOCIAL Facebook group, research journal, and artifacts using a modified 8-step content analysis based on Schreier (2014). Member checking, as described in chapter 3, was completed and feedback was requested on the themes and initial findings.

I analyzed quantitative data using the SPSS software and I analyzed the data from the construct level using descriptive analysis on the responses, treating the Likert-scales as noted for each construct as an interval-level variable. A comprehensive review at the question level appears in Appendix G.

Knowledge Sharing

As one of the foundational tenets of Connectivism, knowledge sharing was a topic often present and discussed within the SOCIAL event. Even before participating in SOCIAL, participants had learned that knowledge sharing is impactful in their contexts. Not every educator they work with has the opportunity to participate in professional development and training such as the TIEC programs or SOCIAL. Therefore, for these participants, it seemed important to share this knowledge within their contexts. Knowledge sharing, contextualized for this purpose, applies to two aspects of the participants' experiences. First, knowledge sharing within their contexts/classrooms, aligned with building collaborative opportunities for their students and fellow professionals. Second, knowledge sharing within their professional circles, aligned with distributing the knowledge they have gained from SOCIAL with others.

Participants began distributing this knowledge with colleagues and implementing it within their contexts before the SOCIAL event concluded. This pattern shows how the application of techniques and concepts happened well before the implementation of an action plan of any participant. As previously referenced, the data for this theme is aligned with two main subthemes: building collaborative opportunities to share knowledge and distributing knowledge to colleagues. This thematic section makes connections to Research Question 1 (RQ1) and Research Question 2 (RQ2), focused respectively on how this experience drives participants' application of social presence techniques in their contexts and how this experience advances participants' knowledge and utilization of techniques to create similar learning environments within their own contexts.

Building Collaborative Opportunities. Particularly as it relates to virtual learning spaces, collaboration is not something that happens without planning and structure. Building these opportunities incorporates not only the ideas and concepts of connecting but also moves beyond those concepts to a space where knowledge sharing and collaboration happens regardless of geographical location or technological barrier. Being able to learn about and implement various techniques and ideas related to both connectivism and social presence allowed these participants to overcome different obstacles. Aside from overcoming obstacles, these participants found ways to enhance their collaboration with both students and colleagues.

Providing a collaborative virtual space where knowledge could be shared was important to Interview Participants 1 and 2 as they discussed their experiences in SOCIAL. Interview Participant 1 (IP1) noted utilizing techniques from SOCIAL to help

build a more collaborative and connected environment in their classrooms. IP1 used various techniques to provide collaborative opportunities and share knowledge, which was a new teaching process:

Before, I made a lot of online sessions. But in fact, I was giving or delivering only the learning or the material I have. I didn't use[d] to make it such a social one or to try to make a relationship between my students. And after all, I get this experience, I tried this with them. I was beginning with them from the early beginning. So I tried to do this from the first session, and I noticed that it makes a lot of difference.

Within this environment, IP1 also discussed what they felt was the most successful aspect of creating collaborative spaces:

The most effective one was to make some peer-to-peer conversations or assignments that I try to engage every 2 of them separately with each other to practice and putting them, for example, in breakout rooms, was very good. and they enjoy doing this. And I encourage them to do this. Even after that session, I ask them to call each other and speak to each other at least half an hour a day to practice English with. You know. I'm learning them English as a foreign language. and they Don't have a lot of opportunities to practice speaking with other people, so it's effective to speak with their friends or their colleagues who are taking the same material. This was very good and effective really.

Interview Participant 2 (IP2) also noted the value of collaborating in a group space, particularly when the group is made up of different people, different experiences, and different perspectives:

Well, one thing I'm really sure about is that [SOCIAL], you know, made a difference in my mind. You know, education or educators have a cross mission because we change mentality when you mix when we mix it in the group you created. I was super. I was super excited to participate, because, you know, we have like mingled experience.

For IP2, the group itself, and other similar types of groups, form collaboration opportunities and provide a space to share knowledge and learn from each other.

Both of these participants also discussed using various techniques to help build connections. IP1 used some of the ideas and techniques demonstrated in SOCIAL with their students and noticed how it impacted the learning process:

Also, I used the part of giving them some assignments and giving them some discussion assignments, especially. This helps them to communicate with each other to tell their opinions and to agree or disagree with each other. So it makes a kind of link between them and helps them to express themselves eh ya. After that I discovered that they feel that they express themselves, they find themselves in these discussions with each other and sometimes they tell about stories or experiences from their own and they get some use of some advice from their friends.

IP2 also discussed learning different collaboration techniques within SOCIAL:

Well, actually, I learned how to use the Messenger or Facebook in learning. This is something good, because when you created the messenger group it was like a way of connection. When on the spot you can comment on the spot, and we act with each other. So Facebook would be a good way. Not only Facebook, the Zoom Meeting you help. and the ideas we get each time from each other. These are ideas I use. I can use, or a cascade in my teaching itself.

Interview Participants 2, 3, and 4 provided their perspectives on the importance of collaboration and sharing knowledge. Interview Participant 4 (IP4) noted in their questionnaire that technology has brought together different ways for individuals to learn and choose their learning path. Discussing the experience with SOCIAL, IP4 stated, “It also promotes group collaboration and discussion, allowing for different viewpoints and perspectives when it comes to decision-making, problem-solving, and making sense of information.” They also proceeded to say, “In this approach, learning responsibilities

shift from the teacher to the learner. It's up to the learner to create their own learning experience, engage in decision making, and enhance their learning networks.”

Interview Participant 3 (IP3) also discusses collaboration opportunities during their interview. As an administrator, IP3 had a little more perspective as a “knowledge sharer” and discussed collaboration as something very important that they were actively trying to initiative to help share their experience:

I found that something is to also collaborate with the others, which is collaboration, and I wanted to really give a chance to the other participants to be within my own experience in terms of training, practitioners and education.

IP2 compared the experience to cooking and the importance of bringing all the different ingredients together to make a meal. This was an interesting expression of how collaboration and this group worked, and it worked well for the participant to make the connection, “When I cook something we have the ingredients. Everybody has these ingredients here on there, and we share these ingredients together, and we have, like a good recipe for education.” IP2 continued to express the important connection between group collaboration and knowledge sharing:

When you are connected with a group of educators you can ask anything. This is something good. It's really interesting that you can share knowledge. If you are wrong, somebody can say it can tell you where exactly you are mistaken, because sometimes I am okay with some sort of knowledge, and my colleague is okay, and another part of knowledge. So why not benefit from each other when I connect.

IP3 also noted different ways that groups and teamwork are conducive to collaboration and building in those opportunities for individuals to come together in the spirit of sharing and learning:

I am really engaged as an administrator, so I wanted to really to share that with the other participants elsewhere to be engaged in that kind of experience which is a teamwork, and to enhance collaboration. I can, because it's important to work in that kind of a framework.

All interview participants discussed the value and importance of collaboration and providing the opportunities for collaboration to occur, either through the creation of virtual spaces or through various techniques they experienced during SOCIAL.

Distributing Knowledge to Colleagues. SOCIAL was an experience meant to be shared. Whether with students or colleagues, it was an explicit goal that participants would identify ways to incorporate this experience and learning into their contexts. This was an important part of the action plan, which asked participants to build a plan based on implementing social presence techniques and what they learned in SOCIAL within their own contexts. As the interview participants discussed, this knowledge sharing happened concurrently with their participation in SOCIAL. As they made references to “sharing” or “cascading” their knowledge, they identified ways they were doing this both within the context of their work and also within the context of their action plans.

Interview participants discussed sharing this knowledge with others. IP2 spoke about sharing that knowledge with their colleagues:

For sure this is something great because somebody tells an idea and the others comment or send feedback on this. and in this way we share knowledge. We exchange knowledge. Sometimes I use these ideas to cascade knowledge to my learners, and this you know, for sure, it changed and improved my teaching process and how I mentor others.

Similarly, IP3 discussed distributing knowledge to their colleagues. As an administrator, IP3 talked more about sharing their knowledge as an educator by using

techniques learned in SOCIAL, “I grasped this opportunity to implement some of your procedures. I think really how you provided us with the links with the documents, and I tried to apply that in my own job so professionally, it helped me a lot.” This participant referenced their Action Plan which included providing curated materials for their staff in lieu of having the staff do their own research. IP3 proceeded to discuss how this format helped them in their role as an administrator. Having great distances between the schools they oversaw, and embracing concepts learned in SOCIAL helped navigate the distance and save time and traveling:

You gave me a chance to implement and rely on technology to reduce that distance and that I cost. I think I have already, and this time, for me, it was a kind of tyranny. But I have to free myself. And for that, using technology helped in terms of providing teachers with help. So I worked to implement that kind of a framework.

Although IP1 spoke mostly about replicating and sharing this experience within their virtual classroom, they did, however, point out their positive experience and how they shared that knowledge with their colleagues, “I told some of my colleagues about this experience, and I tell them about some of the ideas I gained. They said that they may try this, and they may apply or implement some of these points in their sessions, also.” Providing this knowledge to help others improve their classrooms was something IP3 discussed as well. IP3’s Action Plan included utilizing this idea of distributing knowledge as something that would help train new teachers. IP3 imagined a training system that would help new teachers take their theoretical knowledge and learn to apply practical classroom techniques that they would learn from senior teachers:

In this category of teachers who are new, we find as teachers, they have some theory acquired from the university, but not really this kind of practical knowledge that we are facing in terms of classroom management because we have to experience that to learn it. And because we have teachers who can cascade that knowledge, they can help. We have one space, which is a classroom, and it's not only a space where we have to learn, but also it is a space where we may face some issues in terms of conflictual situations that teachers should manage because they are adult responsible.

Another common topic among the participants was how they were planning to utilize or mimic some of the structure they experienced themselves. IP2 spoke about how the platform and structure of SOCIAL added to the experience and learning. This was something IP2 noted specifically as something that they will distribute to others:

When on the spot, you can comment on the spot, and we in our interactions with each other. So Facebook is a good way. Not only Facebook, the Zoom Meeting you held and the ideas we get each time from each other. These are ideas I use and cascade in my teaching itself to teachers I mentor.

IP2 also discussed their action plan, which was to directly implement a SOCIAL style experience for the new teachers they mentor:

I use this knowledge I got from the experience and cascade this knowledge to my trainees. I'm going to train them and use what I have learned from this program. So a messenger group will be a good help sometimes. I'm going to post and create a group on Facebook. Sometimes I will create pages for them like you did for us with information. All these tools will help me and will be a great help for me. Then I will, you know, prepare the materials I'm going to teach them or to train them on. It's like coaching. It's not teaching, by the way. It is online learning. This was a really good experience for me to cascade my training to those fresh teachers.

IP3 highlighted how using this model helped develop the teachers they oversaw to pass along this training and knowledge to other teachers:

It is beneficial and efficient in training teachers like this and providing them with examples, modeling procedures implemented in their practice. So I have started this with some leaders to meet with me, and be with me all the time when I am conducting seminars virtually and to have a kind of modeling experience. Then they are going to cascade that for the other teachers at their locations. Knowledge from this group to me, to my leaders, to other teachers. Truly cascading what has been learned.

IP3 sees using technology and the internet as a way to help teachers gain access to more information and learn from others:

I think teachers should be themselves engaged as a central point of the whole process, you know. We cannot be there whenever they are in need so when we cannot respond to that teacher's needs, we have to help them develop. Personally, I think that they have to. With technology, I think everything is available. We can now log on and have different resources on the Internet. We can connect and share in different ways when we are apart. And this is something that which is a change for most of the teachers. It is a change for me, something I learned with this group.

Knowledge sharing appeared in various ways throughout the interviews as the participants discussed collaboration and the distribution of knowledge. Regardless of whether a participant was discussing these ideas concerning a virtual classroom or virtual spaces with colleagues, participants indicated the value and importance of sharing knowledge, both the knowledge they learned in SOCIAL but also knowledge in general.

Survey Findings. Questions from the post-innovation survey, completed by all participants, produced data that supplements the findings in the qualitative interview data about knowledge sharing. I asked participants to answer questions related to this construct using a 6-point Likert scale, and Table 6 summarizes the descriptive analysis. The first construct was the advancement of knowledge by participating in SOCIAL. The second construct was the application of this experience to participants' professional

context. Table 6 also provides the mean for the participants’ responses to the statements to questions in both of these constructs. Questions are listed in Appendix B.

Both constructs apply to this theme in the data analysis and are rooted in connectivism. Gaining knowledge and identifying ways to share knowledge through networks and connections was an important part of the SOCIAL experience. The means of each construct indicate that the participants also agreed with these being important aspects of their experiences participating in SOCIAL.

Table 6

Descriptive Statistics: Knowledge Sharing

	Minimum	Maximum	Mean	Std.
Construct: Advancement of knowledge by participating in SOCIAL.	4.5	6.0	5.3	0.5
Construct: Application of this experience to your professional context.	4.5	6.0	5.5	0.5

n=19

The surveys also had two open-ended questions. The first was “Based on what you experienced in this workshop, what changes are you planning to make in your professional context/classroom?” The second was, “Please list 1-2 techniques you plan to use within your professional context.” These questions were not required as part of the survey. Of the 11 responses for question 1, “cascading” knowledge was mentioned by 3 participants, and creating online spaces to help with community building and learning was mentioned by 2 participants. For the second question, 12 participants responded. Creating collaborative knowledge-sharing spaces was mentioned by 3 participants. One participant stated they would “implement virtual forum opportunities that line with the materials so students can share what they are learning.” Two other participants discussed creating some sort of online repository for the research their students do, as one stated,

“they can build a virtual library that they each help construct by providing new knowledge on topics.” In addition, providing opportunities for discussions and “talking” was mentioned by 3 other participants, such as “create an outside of class virtual space to discuss anything class related” as well as “using a lottery to help combine students for online discussions so they work with new people and learn new ideas.”

Combined, these quantitative findings not only show sentiments towards this experience from the broader participant group but also support the insight and comments of the interview group. In this case, the quantitative data indicate strong agreement with the preferred statements that the knowledge gained was beneficial and applicable to the various contexts of the participants. This data provides a larger context for more specific data found in the qualitative analysis of the interviews.

Additional Data Sources. As noted, I collected additional data sources and completed data analysis on those sources. Two additional sets of innovation artifacts were collected from some participants in SOCIAL. 10 participants submitted their Situational Capacity Assessments (SCA) and five participants submitted their Action Plans (AP). The SCA activity asked participants to identify their role in their professional context and discuss their capacity to make changes in their space. Frequently the role of “mentor” was discussed alongside their teaching or administrative duties. One participant mentioned mentoring other English teachers in their region that were working in different schools. Another participant, who was an administrator, discussed how they viewed a large part of their role as mentoring new (within the first year) teachers to help them learn different aspects of their role. Two other participants referred to part of their role as a

teacher was to mentor their students on how to navigate being online, both in learning and in their lives.

In addition, participants described themselves as “leaders,” “facilitators,” and “teacher educators.” These roles are all roles that involve knowledge sharing. When asked about their capacity to make a change in their professional space, a common theme was having the ability to create collaboration opportunities with both colleagues and their students. Another theme was being able to implement new ideas. This was discussed by using examples of bringing technology into the classroom and bringing back information from the different learning opportunities they had been a part of to share with others.

The next innovation artifact that I analyzed was the Action Plan (AP) that five participants submitted. The AP provided some insight into what these participants planned to do with the knowledge they gained in SOCIAL. Participants indicated various ways they would create collaboration opportunities and spaces. One AP noted they would create “a Facebook page, WhatsApp Groups, and use other social media” to help create spaces for online educators to connect. Another AP stated, “After each [class] session, I will ask them [their students] to give reflections and discuss the things they learned and make a group and forum for them to exchange information and communicate with each other.”

Another participant noted in their AP that they would “Encourage teachers to interact with each other through collaborative assignments. This will help build a culture of collaboration.” Creating forums and collaboration spaces such as WhatsApp groups was a very popular idea in the AP and indicates a strong desire to create spaces that will

allow for knowledge sharing and support. Though participants had an awareness of social media and various virtual connection tools and utilized them as a connection tool socially, participation in SOCIAL showcased how to use them in an educational setting. One participant noted that social media and Facebook was “where people go to watch videos and laugh. It is like, not associated with learning. It is seen sometimes as a way to waste time.” The experience in SOCIAL showcased Facebook/social media as a learning tool. Participants were then including things like WhatsApp and Facebook, which they normally would just use to connect socially with others, as a pathway and tool for learning in these APs.

One of the goals of SOCIAL was to model different techniques and provide a space that allowed the participants to not just learn from each other but also from the space itself. As noted in my research journal, some collaboration spaces were created to help facilitate interaction. These included various chat groups within the larger SOCIAL group focused on different things such as the different Events, support chat, knowledge sharing chat, and a celebration/kudos chat. These were used frequently in the beginning as participants were learning to navigate the event.

Another built-in feature that relates to this theme was the process by which participants could share their various artifacts (SCA, AP) and gather feedback and share what they had learned and were working on. This happened within the group by posting the artifact, providing a summary, and soliciting feedback. Other participants would then comment or react to those posts. For Event 1, which was where participants would complete the SCA, group activity insights show 21 various posts were made, 12

comments were added and there were 148 various Facebook reactions. Though these may seem like shallow reactions, the participants seemed to rely on them as acknowledgement and engagement tools. These would be used in other parts of SOCIAL, particularly in the various chat spaces to highlight and emphasize comments. The reactions seemed to show a more supportive side (thumbs up, hearts, etc.) and the comments were usually supportive encouragement though many times would have different ideas on how to work through struggles or concerns identified in a participant's SCA. These additional data sources supplement the participants' perspectives found in the interviews and surveys with their actionable items as well as the researcher's perspective and group analytics.

Connections to Research Questions. As noted previously, this thematic section addresses RQs 1 and 2, which focused respectively on applying social presence techniques and creating similar learning spaces. Data from the interviews, surveys, and SOCIAL artifacts support RQ1 by showing explicit ways in which participants' experiences in SOCIAL drove them to apply various SP techniques in their virtual learning environments and professional contexts. All interviewed participants discussed specific ways they applied different techniques such as using video, images, connection spaces, and various forms of discussion opportunities to help foster connections. Through the reading, activities, and discussions, participants moved beyond participating in a social space and transitioned into creating spaces that fostered connection and collaboration. Within SOCIAL the participants experienced various social presence techniques and engaged with them. This allowed them to consider how they could apply

them in their context, through their APs, in a meaningful way to create the virtual learning environment they desired (and experienced in SOCIAL).

Quantitative data helps to reinforce this experience with strong agreement that participation in SOCIAL advanced their knowledge of social presence and connectivism which led them to incorporate those concepts and techniques into their Action Plans (AP). These APs demonstrated the desire and ability to apply this experience in their professional contexts by utilizing techniques discussed and demonstrated in SOCIAL by not only identifying a plan but, as noted in interviews, applying these plans before the conclusion of SOCIAL. Participants could not simply take something they experienced in SOCIAL and place it in their APs. By completing their SCAs and referencing them as they both considered their APs and implemented some techniques in their practice, the participants had to think about what they were trying to achieve and create opportunities for that experience to happen.

Additionally, the data analyzed in this section supports RQ2 by demonstrating the ability of participants to create similar types of learning situations and environments within their professional contexts. IPs 2 and 3 both explicitly discussed creating similar learning spaces as well as sharing this knowledge with colleagues. Specific references were made during the interviews to utilizing either a replica (Facebook Groups) or other types of social spaces to facilitate this type of environment. Participants also spoke about using the internet and asynchronous connections to share knowledge and facilitate these opportunities, all of which were modeled during SOCIAL. Similar to RQ1, the quantitative data indicate that participants felt strongly they could use what they learned

to create similar environments in their contexts. Finally, the APs shared by participants provided specific examples of how the environment created in SOCIAL was going to be replicated, sometimes almost exactly, within their various contexts.

Connection Building

Another theme that became apparent within the data was the theme of building connections. In this context, building connections takes on multiple forms. Grounded in the Community of Inquiry framework and particularly focusing on Social Presence (SP), SOCIAL used SP techniques such as creating spaces for participants to interact with each other, promoting techniques that allowed all participants to feel connected and more “human” in the experience, and encouraged virtual interaction through posts, discussions, chats, images, and video. This data highlights how the smaller interview group and the larger participant group not only experienced SOCIAL but also highlighted experiences within their contexts with building connections. The data for this theme focuses on two main areas: creating spaces and connections through SP techniques. This thematic section makes connections to all Research Questions.

Creating Spaces. In these cases, it is important to note that “creating space” is used to represent not a physical space but more often a virtual space where connections can be made. How this space contributes to and enhances connections is something that the participants discussed during their interviews. Participants discussed creating spaces in two distinct ways. First, they discussed this in relation to their experience in SOCIAL and, second, in relation to their local contexts.

In relation to the experience in SOCIAL, IP1 noted how their own experiences in SOCIAL and with TIEC helped to shape this idea of creating spaces for this type of interaction and connection:

Connecting in these spaces is important. In this experience [SOCIAL], we connected through posts and chat spaces. I like discussion posts too because I myself learn it this way when I talk, the program was TIEC, and the other programs on Canvas, and they do this. They open a discussion, and they ask us to post our opinion, or to do our post, and at the same time we have to comment on 2 or more of our friends, and this is very effective, and that helps me a lot to go on with speaking and writing. I enjoy having the space to do that.

IP1 worked to create space for these connections to build in several ways within their virtual learning environment. IP1 identified ways in which they could build connections by using dialogue and discussion as a form of space creation that would facilitate connection-building:

Yeah. Really social presence was, I discovered that it's very, very important, and especially in online sessions, because that you have no connection or a direct connection with the trainees or the students with you. And I really get used to telling them, or guide them to know the netiquette, or to know the rules of our sessions. So it makes a kind of link between them and helps them to express themselves. After that, I discovered that they feel that they express themselves, they find themselves doing this in online discussions with each other and sometimes they tell stories or experiences of their own and they get some advice from their friends. This makes them so related to each other, and it makes a kind of something good between them.

For IP1, this revelation advanced how they viewed the online “space” they taught in, “I learned my class needed to be a space for this to happen, you know? Maybe it would help them make spaces outside of my class.” IP1 was able to identify opportunities to create spaces to build connections both in their virtual classrooms and also within their own experiences in various learning environments. IP2 was also a big proponent of

online spaces and learning and saw value in creating those spaces as a way to connect with others from all over:

So I was, like, you know, experiencing a new, a new way of changing knowledge of connectivity and connecting in [SOCIAL] with these educators. I know that some of them are from other parts of the world, and some are Egyptian. But exchanging knowledge and connecting with those educators... made a difference in my teaching itself.

IP3 identified using these tools to build connections and create spaces as a way to make asynchronous learning feel more synchronous. For IP3, this was a very important part of how they planned to use the knowledge gained in SOCIAL:

I think social presence should be considered differently to be synchronous, not asynchronous. Not in the sense of when it happens, but how we engage in spaces. Being someone engaged in that experience as a person, as an individual, it is important to be involved in that space. By making connections and exposing to some values which are shared by all human beings. Because, you know, you have your own experience. I have mine, and we are meeting, connecting together, and this connection gives birth to something really magical, which is to learn from others. This is what makes the experience a rich one.

IP3 sees this type of connection building as a constant space they live in, "Every day is a school day for me. So when I come to interact and connect with others, I always feel that I'm constantly learning. It is a growth mindset." IP3 continues, "With my teachers so apart from others at other schools and from me, I have learned how to make space, you know virtually, for us to connect. I saw this in your group [SOCIAL]." This idea of creating space for this type of building connection is important to IP3 and correlated the experience in SOCIAL and their experience trying to help others learn and grow through these types of connections:

I know I learned a lot from this experience. The fact that you have this kind of case study for you, and it is also a learning opportunity for me to learn from Charlie. This is an experience for me. Okay, you are dealing with your case in your studies and research. You are creating this space and for me also, I grasped this opportunity to participate and implement some of your procedures from this experience.

IP2 stated how valuable it was creating this group as a space to bring people together to learn from each other. For IP2, “mingling” together in this created space was impactful, “One thing I’m really sure about is that group, you know, made a difference in my mind. You know, education or educators have a cross mission because we change mentality when you mix when we mix it in the group you created. I was super excited to participate, because, you know, we have like mingled experience.” IP2 also noted the direct impact it had on how they viewed their work and their action plan, “I really liked it, and I was super excited, and this program will change. Change it a lot in my mind and in my teachings, too, in my action plan.”

IP2 looked at building connections and creating spaces as important for their context and personal experience. They talked about using online spaces, like SOCIAL, as one that can create those opportunities to connect:

I started to learn about this by joining your [SOCIAL] group. It was like a good experience for me, because, you know, I participated in this with the idea in mind that I need to, you know, enhance or push my professional development, and I know more about digital tools, etc. Actually with your support, Charlie, with your group, everybody, you know, I learned so much. You were supporting us when we ask questions and on the chat, or even in the group. So everything was prepared. Everything was planned, and when I see my colleagues posting their action plans or they post about themselves, it was like someone I know more, so I didn't meet them in real life, but I meet them virtually. I'm trying to know more about them. And this experience was really interesting for me and was a good space.

In discussions around their local context, IP3 identified that building connections in these spaces helps to get back to a core value for them, sharing knowledge and learning from each other, “I found that something is to also collaborate with the others, which is so important for me, and I wanted to really give a chance to the other participants, to be within my own experience in terms of training, practitioners, and education.” IP3 values the ability to create these virtual spaces to make up for the inability to inhabit the same physical space to make these connections and notes how they will use this in their action plan:

So I plan to implement that kind of frame which consists of using virtual space to help educators to be leaders in some of the municipalities or districts, and because we cannot be together all the time. Space and location make that difficult so it's not possible to share and be within the same space. Creating virtual space helps to be beneficial and efficient in training teachers and providing them with samples, and modeling procedures implemented in their practice. This builds connection even when we cannot be together.

IP3 identifies this type of connection in virtual space as very important, particularly in their context:

I think we have to engage teachers asynchronously a lot more than we do. This is what I like in your own experience because by design it can't work synchronously. I want to try this because we really have a problem with connectivity. This is one thing, and the other thing is the fact that some of the teachers, practitioners, and individuals are reluctant to change. You know, when we have this habit to be in our comfort zone. It's not easy to let's say, maybe engage professionals in something which is new and good. We have to make space because embracing something that they have not experienced so far is tough.

IP1 and IP2 also made some direct connections to the importance of lasting connections post-course or professional development opportunities. IP1 notes that

building these connections is important and ideally can be things that carry on after a course or time together in some sort of virtual community:

And now, with my students, as I told you before, I may try to make a connection between them. I gave them a lot of opportunities to communicate with each other, to discuss some of their work. and to know something about each other, to be like friends. and, as I told you, it was very effective. And myself, I was enjoying this. I enjoyed giving them this course and I feel that I have new friends and new people to communicate with, even after the course.

Participants also discussed how virtual tools could be used to create these spaces. Particularly with WhatsApp, IP1 identifies opportunities to provide additional knowledge and connection opportunities after the course is done (either for a session or in its entirety):

When I deliver a course I have a certain material with me. After I finish giving them the session, I try to search for more resources or something different from the material I give them. For example, I try to find some activities or some games more than the ones in the material already and after I finish I share them in the group, the WhatsApp group that we have to enrich their knowledge. Give them some videos to explain more and more details about this in case I miss something.

IP1 sees sharing this post-session additional material as a benefit and continuation of their class time together. IP1 states, “I think using a space like WhatsApp group to give more information outside of the class helps learning, from each other and from me. We communicate in that group, and I think we can learn there also.” IP1 discusses using other online learning tools as well to not only teach but to engage in social and enjoyable learning opportunities:

So I share with them some visuals, some games on the word wall, or like Kahoot. And I think after doing this, they get more benefits, and they do exercises, or do they do practice more and more. And sometimes I also post to them some funny videos, for example, I found on the Internet. And I share this with my students.

It's fun to learn from it, and they enjoyed it, and they started to search for more and more things like this and share them in the groups and with each other also.

IP3 notes that embracing these spaces and the internet takes advantage of the different resources and ways to connect. For IP3, this is a very important aspect to incorporate in their context and comments on what they feel makes virtual spaces work in regard to interactions and learning:

Now I think everything is available. We have to now log on and have different resources on the Internet. And this is something that is a change for most of the teachers. But why is this so important? They must take these opportunities to grasp whenever they have some time and share. Because, you know, as the French saying goes, communication springs this kind of light, you know. And whenever we interact with others, we can have some understanding of some concepts which are not, maybe the explanation we expect, and the others could be a kind of enlightening our own understanding of the concept. This connection is so important.

IP2 felt the space of Facebook was also beneficial to this type of learning and connection building since it was a space many already inhabit but they had not considered using it for learning/education until SOCIAL:

I learned how to use Messenger and Facebook in learning. This is something good because when you created the messenger group it was like a way of connecting. When on the spot you can comment on the spot, and we interact with each other...Facebook is a good way for education because we [can] put links on that platform. We sometimes can send on Messenger these links and these things could be on the spot because here in Egypt it's the number one platform for us. Everybody uses Facebook. Everybody looks at Facebook daily, or even. I guess some people are addicted to Facebook. So why not use it in education?

Though viewing space through different lenses, all three interview participants noted value and at times necessity for creating a space that fosters learning and connections. Noting

different virtual tools and how those could be used, the participants not only spoke about how these spaces enhance connections but also build lasting relationships and connections.

Connection through Social Presence Techniques. Aside from the space where connections are made, another major aspect of this theme is how those connections were facilitated. SOCIAL exposed participants to Social Presence (SP) techniques, which led to them being able to connect an experiential level. In addition, many spoke about either their planned or in-process incorporation of these types of techniques into their context to help with building connections among students or colleagues.

In relation to SOCIAL, learning new ways to connect and teach/learn/mentor online was very important and something IP2 focused on a lot, “I tried to know more about online learning. I used WhatsApp for my students. but I was not effective enough. Then I resorted to Zoom and it was the most good for me.” IP2 goes on to talk about how participating in SOCIAL brought another layer of tools that could be used, “Later, when I joined your group about social presence and connected with the educators in the group, I've benefited a lot because I learned a lot from their experiences as educators. I learned new tools to connect people.” IP2 continues to highlight the importance of building these connections and utilizing SP techniques to do so:

When we used to connect together on this program, you know, I was like it was like a family to me with educators, and you are the leader, of course, of this family. You help by giving us ways to connect with each other. Not just the group, but with videos and with sharing our work and getting experiences from others to make our work better. We are people on Facebook. This group [SOCIAL] brought us together through Facebook and Messenger. This is special. I want to do this with my colleagues and students.

IP2 noted some challenges they saw with virtual learning and how it differs from in-person learning:

You're not transferring emotions like when we are in the real world. Sometimes you can feel, yeah, that touch on my hand, even the clapping, or even any positive comment. But so with those, you know, there's a screen, or some like a curtain between you and me, so how to connect feelings or emotion. This is what I'm thinking about. Feeling is the most important issue I'm thinking about in my training, but getting knowledge and the training to them online is really interesting because I have a lot of tools and a lot of platforms with a click of my mouse, I can look to show them how to, you know, to be like autonomous learners. But we must project being real and emotional.

IP3 discussed the value they found in connecting with others using the SP techniques provided within SOCIAL. One thing they mentioned was that from the start, they wanted to experience SOCIAL through that lens:

To begin my own experience with social presence and this group, I expected really to connect with the members. I think there were 19 members who are involved in the experience. I try to keep in touch with members through the resources in the group. I connected with a few participants to share my own experience as an administrator with them. It was tough because I was not really free because I had a lot of work to deal with. But I dropped some hints as far as applying this experience in my own, let's say, professional development. I tried to present myself for them to know me.

IP1 also noted value in this connection based on some past professional development experience. Having gone through experiences that were fully engaged and synchronous as well as those that were fully disconnected and individualized, IP1 notes the value of providing connection opportunities through SP techniques:

I was participating in a virtual exchange program about climate change and another one as a teacher educator. Of course that virtual exchange was a little bit different because we met each other and made projects or something like this. And the teacher educator one, it was like, yeah, maybe we have some similar parts and they also posted some links and some resources for us. They made it a self-based one, and they asked us to make our search on our own, and to make a schedule by our time. There was no connection. This experience [SOCIAL] gave

us ways to be connected even if our work was made on our own. This is important.

IP3 recognized that the different experiences would be beneficial for everyone to learn from. Part of their motivation when participating in the group was to open up about what they knew and learn from what others knew:

I want to really get to know others because I think our own experiences are not really on the same, the same, let's say track because many participants are teachers. So I wanted to maybe share with them my own experience as an administrator and learn from them as teachers. This was like a safe way to learn from teachers to help me with developing my own teachers I work with.

IP2 was very passionate about the experience and the impact it had on them, “I benefited a lot from being part of this group. I have the idea that you know that we, as teachers or educators. we have a mission, we change mentalities.” IP2 concluded, “Yeah, when you change the ideas of people to resort to online learning, you change the world. This is the mission central to all civilizations and educators or teachers.”

Regarding their local context, IP2 stated that the internet and bringing people together virtually was important for their context because they live in a very rural place and people are often learning in isolation:

I myself live in a rural community. To teach online was like a challenge for us. As an educator, I'm aware you know that the Internet where you were used to going when we watch videos or etc., it was not normal for us to have learning and the good things with the Internet. So after the lockdown, after the epidemic, everybody was looking for some sort of a good solution to solve the problem. My colleagues used to tell me, how can we teach them? What can we do? We had to learn to connect with the internet.

IP1 discussed some of the struggles using some SP techniques with some in their country due to the disinterest in using video. Still, IP1 saw the value through the experience in SOCIAL:

As I said before...it's online, and in my country you don't want to open the video, or see the picture of each other. So [we are] completely apart from each other. I feel that this [video/pictures] makes a link, or makes a relation between them, and after that they express their gratitude for that. And well, I noticed that you yourself did this with us while you posted some videos, and you try to engage us in your weather and the differences between our weather and you ask us about what about the weather at ours. I think this is a kind of an example or something. You tried with us, really.

For IP2, connecting virtually in a way that allows for participants to feel and express themselves to each other is the future:

So online learning is really, you know, it's very, very, very important and interesting. It's really essential in our modern life. I'm thinking about that and then how to transfer your emotion throughout the platform or online learning platform. We must know this and we must do this because this is how we will learn. Together by feeling what each other is feeling. We can share, share knowledge, and share experiences.

IP3 noted the need to humanize ourselves when we are working with others virtually, "I think, because you know the fact that we are in a virtual world doesn't mean that we have to skip what makes us a human. Okay, we have to humanize even who we are. We need to do this as we learn and connect." They mentioned how SP techniques can help with that, "Giving a little of ourselves in discussions or through videos or pictures helps us connect as humans. We can do that virtually by making social presence a priority." They continued, "It is something to keep in touch with people in different remote places in the world. Everyone has, let's say, an identity, which is maybe different

from what I was, but we share principles and values in professional domains. And, maybe, as a citizen of the world.”

IP4 noted that SP techniques were important for them as they navigated connecting with others in the classroom and other virtual environments, “I have learned that I have ways I can be more human within the virtual world. This benefits how I present myself in learning environments and on social media, which is important for connecting with others.” This is a key aspect of SP because, as Garrison and colleagues (1999) contend, SP is how individuals present themselves as “real people” in a virtual environment. IP4 addresses this specifically in their thoughts on what they learned in SOCIAL. This was a key lesson IP4 focused on when discussing their participation in SOCIAL. They continue, “Like body language in person, presenting yourself correctly in a virtual environment helps with your communication. This experience has taught me to pay attention to that.”

Additionally, in their questionnaire, IP4 discussed the importance of social presence in online learning:

Social presence is an important topic in online group learning. It is needed online and affects learning and social outcomes. I hope to better understand interpersonal communication, group learning, and group dynamics when learning and working together in an online setting. It is very important in today’s education. We learn through online Zoom, WhatsApp, and Team. All these applications are very important in today’s learning. It is how we connect and show who we are.

The different contexts and experiences helped to provide a broad perspective of how building connections not only played into this experience for the participants but also how it plays (or will play) into their professional contexts. Different ideas about what

“space” means along with different ways to incorporate similar techniques speak to a level of universality with these concepts and this theme.

Quantitative Findings. In addition to the qualitative interview data presented to support the theme of knowledge sharing, I also analyzed relevant quantitative data. Questions from the post-innovation survey, completed by all participants, produced data that supplements the findings in the qualitative interview data. I asked participants to answer questions related to this construct using a 6-point Likert scale. Table 7 displays the descriptive analysis. The first construct was the advancement of knowledge by participating in SOCIAL. The second construct was the application of this experience to your professional context. Table 7 also provides the mean for the participants’ responses to the statements to questions in both of these constructs. Questions are listed in Appendix B.

The constructs point to different aspects of the concept of Social Presence as it relates to the Community of Inquiry framework. Providing virtual spaces for these connections to take place were both described and applied during SOCIAL. In addition, SOCIAL exposed participants to the concept of social presence and various techniques used to enhance it in virtual spaces. This was, as well, both described and demonstrated during their experience. The means of each construct indicate that the participants also agreed with these being important aspects of their experiences participating in SOCIAL and concepts they would apply to their professional contexts. While the interview data provided information on the experience and perspectives of a cross-section of the

participants, the quantitative data gathered feedback from all participants in SOCIAL (n=19).

Table 7
Descriptive Statistics: Building Connections

	Minimum	Maximum	Mean	Std.
Construct: Advancement of knowledge by participating in SOCIAL.	4.5	6.0	5.3	0.5
Construct: Application of this experience to your professional context.	4.5	6.0	5.5	0.5

n=19

Additional Data Sources. Related to this theme, the Action Plans (AP) completed by participants provide data that showcases how participants outlined steps towards applying what they learned in SOCIAL to their contexts. One participant’s AP stated that they would “use different techniques to introduce myself more than simply writing a bio. I will use video, images, and gifs/memes to help learn who I am. I will ask students to do the same.” This participant noted they would also use various media such as videos and audio recordings to help bring the content alive in their voice. Finally, the participant noted they would create a space for students to collaborate and discuss what they have learned, “I want to create a group forum where they can talk about what they learned and exchange information. I also want them to form connections with each other in this forum.” A goal of SOCIAL was to help highlight how these various tools could be used to increase SP as well as create connections in a learning space. These APs identify various techniques demonstrated in SOCIAL and highlight the ways these participants plan to implement them in their contexts.

Another participant's AP focused on creating spaces for students to collaborate and engage with each other. First, this participant focused on engagement, "I want to improve the level of my learners...I want them to be engaged. I will ask them to use the WhatsApp group that was created if they want to contribute to the process of learning." The participant discussed the need to create a space for students to collaborate and exchange ideas as well as be connected and "in touch" with peers, "I want students to discuss and reflect. To do this, there must be forums and groups to exchange data and be in touch with their peers. They must have this space, it is important to connecting and learning."

Focusing on social presence in their AP, another participant highlighted various techniques that would be used to improve social presence in their virtual learning environment. For this participant, they wanted to focus from the start on creating that space, "To improve social presence in my online training, I can create a welcoming environment by using engaging and interactive tools." They add, "These tools help create a sense of community by using discussion forums and using personalized communication to help connect with each other." This participant wanted to focus on a culture of collaboration as well as actively reward and recognize those "who demonstrate a commitment to learning and social learning behaviors." Finally, the participant noted a need to "celebrate successes and share stories of how social learning has helped individuals and the team" as a way of building connections in that learning environment.

Another participant's AP focused on the spaces they wanted to create to help facilitate and build these connections within their professional context. In wanting to

create a course that focuses on online digital tools, this participant was going to create multiple spaces for their participants to use, “I will create Facebook pages, WhatsApp groups, and find ways to use other social media. I want to incorporate Zoom as well. I want them to have spaces to build relationships and connect during their learning.” This participant also notes that they would like for the teachers they are working with to implement these techniques and tools in their classrooms as well, similar to the goal of SOCIAL, “I will check the implementation by a final project for teachers to apply these digital tools in their teaching.”

The Action Plans help to gain an understanding of how the participants plan to implement the knowledge gained during their participation in SOCIAL. Participants showcased various ways they would build connections based on what they learned in SOCIAL. Some examples included repurposing social spaces such as WhatsApp and Facebook and using them to help reinforce the learning and create spaces which would serve as a way to expand upon what happened in the classroom. Other examples included using various virtual tools to help build connections between colleagues and mentees who are not physically close to each other, especially as it pertains to supporting and learning from each other. Participants also discussed using many of the features of SOCIAL such as focused chat groups, a closed group to share information, and video content as ways of building connections and supporting learning.

Connections to Research Questions. As stated at the beginning, this thematic section addresses all research questions. The qualitative data provide support for RQ1 (application of social presence techniques) by showing how participants plan to build

connections by applying social presence techniques learned and experienced during SOCIAL. For the participants, given their geographic locations and some cultural norms, connecting virtually is both vital and difficult. All interview participants discussed various techniques they learned that could help with their situations. Some participants discussed using social platforms such as Facebook as a medium to connect and humanize each other. For participants that noted difficulty in using images or video, learning about how to effectively provide spaces for asynchronous discussion in SOCIAL was directly applicable to their needs. These social presence techniques allowed them to explore ways to humanize and express emotions which often are lacking in virtual, asynchronous spaces. This was also demonstrated in the various techniques they specifically noted in their APs.

This data supports RQ2 (creating similar environments) by indicating how participants discussed applying their experience in SOCIAL to their professional contexts. Interview participants noted the importance of creating similar spaces for their contexts. This allowed participants to create a space that was virtual and provided the ability to connect and share knowledge, which met their various needs. Interview Participants 1, 2, and 3 discussed the importance of using these spaces to share and learn when it was not possible to be together in physical spaces. IPs also highlighted the importance of sharing the knowledge they gained during this experience while also maintaining lasting connections, both with other SOCIAL participants and within their contexts. The quantitative data, particularly around the construct of application of this experience to their professional context, demonstrates the ability and desire to apply what

they experienced and learned in SOCIAL within the virtual environments they foster professionally. Within their APs, participants discussed ways to create places that build connections and provide spaces to collaborate similar to what they experienced in SOCIAL.

Finally, the data addresses RQ3 (effectiveness of SOCIAL as a form of professional development) by highlighting both what the participants thought was valuable about the experience and also what they learned and planned to apply in their contexts. Participants noted that SOCIAL was effective because specific resources were provided and new techniques were demonstrated that allowed the participants to focus on social presence and connectivism. By experiencing various tools such as the Facebook group setting and chat features, they were exposed to new tools they were able to implement in their APs based on their utilization of these tools in SOCIAL. Participants noted how SOCIAL was focused, organized, and planned which made it a great experience and allowed them to learn and develop. In both interviews and surveys, participants agreed that SOCIAL advanced their knowledge and provided them with opportunities to learn and eventually implement new ideas and techniques.

Beneficial to Professional Development

The final theme from the data surrounds the experience in SOCIAL as being beneficial to professional development. Not only was this innovation rooted in the experience of the participants and the knowledge they gained and used, but it was also rooted in determining the effectiveness of SOCIAL as a form of professional development. Given SOCIAL's asynchronous nature and that it is rooted in social media

(in this case, Facebook), there were opportunities for me, as the designer of the experience, to try new and altered techniques and to potentially provide a unique experience for all participants. This theme is built on data from both participants and researchers and focuses on how SOCIAL, as a professional development opportunity, is beneficial both to the participants and the larger context of professional development. This thematic section makes connections to all research questions.

Learning Through Experiencing. One of the goals of SOCIAL was that participants not only gain knowledge of the various topics and techniques but experienced those techniques and learned from that experience. Though each participant came to this experience with some level of understanding of social media and various virtual connectivity tools, this experience was designed to explicitly model how to use those tools to create a connected, virtual learning environment. Through the content and the modeling, participants experience how to create these experiences and what it felt like from the perspective of the learner. They were challenged to take the understanding of these tools that they already possessed and apply them in an innovative way to positively impact their professional contexts.

In the interviews, participants not only directly described the experience but also discussed how they applied various things they experienced. IP1 noted how experiencing videos being used to make connections in SOCIAL guided them to try something with their students as well:

And I noticed that you yourself did this with us while you posted some videos, and you try to engage us in your weather and the differences between our weather and you ask us about what about the weather at ours. I think this is a kind of an example or something. You tried with us, really. So I tried to do this from the first

session, and I noticed that it makes a lot of difference. As I said before, because it's online and in my country that you don't want to open the video, or you see the picture of each other. So you are completely apart from each other. I feel that this makes a link, or makes a relation between them, and after that they express their gratitude for that.

IP1 also discussed building connections with others in SOCIAL and applying that to their own virtual learning spaces by modeling how different virtual connectivity tools were used:

I liked making connections in this experience [SOCIAL]. You gave us a lot of options [various virtual tools] to connect and discuss things. Now, with my students, as I told you before, I try to make a connection between them. I gave them a lot of opportunities to communicate with each other, to discuss some of their work, and to know something about each other, to be like friends. And, as I told you, it was very effective.

IP2 noted the benefits that they perceived in this experience and with SOCIAL and particularly how to take these digital tools and apply them in teaching, as modeled during SOCIAL:

And this experience was really interesting for me. As far as online learning itself, I ask myself, why did I want to do this? I am for online learning and I learned a lot. I learned a lot about how to use the digital tools in my teaching and how I, myself, can be a good learner. This taught me to be a learner. So if I'm a good learner, I'm a good teacher. I can apply it.

IP3 discussed benefiting from the format of the experience and how it helped to share their context:

I want to say, in terms of, I think, really how you provide us with the links and with the documents and resources, I tried to apply that in my own job so professionally it helped me a lot. I was able to bring resources together for my teachers and encourage them to learn with and from each other. I really liked what we got to know from the other participants. I encourage this. This is very beneficial.

Besides the format and structure of SOCIAL, IP3 also discussed the value they saw in some of the activities that they were asked to work on:

You are empowering, you see, the use of technology in different ways that work within my context. And, I think, that was exactly what the first part, the situational capacity assessment I believe it was called, was designed to do, right? And then by the time I got to the action plan I had thought about what could work well, and then worked to overcome obstacles with things I had learned and learned from others. I know not everyone shared them, but it was important to share mine because I learned a lot and it was really a benefit.

IP1 described aspects of SOCIAL that were beneficial to their needs of development and growth. Candidly, they discuss their struggles with searching for information and also the benefits of having this information provided in a very focused way in this experience:

The good point in this experience is that it's focused on a certain part. Sometimes when I make a research or open the Internet, I'm not going to focus on something or I have a lot of resources, and there are, you know, thousands of resources and I don't know which one is the good one for me. I waste a lot of time searching between this and that and the good thing is that this points to it. It's focused on, for example, the social presence and the focus on connectivism. So I am forced in a certain way to focus on this only. Sometimes I need to not be lost between a lot of resources and searching and wasting time. This is very beneficial to me and my students.

For IP1, this focus was important to help anchor what they should be learning and reviewing and the focused material helps with that, according to their comments.

The structure and format of SOCIAL was beneficial according to IP1 and they highlighted how SOCIAL assisted in overcoming the struggles they faced individually:

My challenge all the time is that time is running fast, and sometimes I don't have enough time to apply the things I have in my schedule. So I try to prioritize things

and that does not always work out. With this experience, you gave us a frame and allowed for time to work on things at our own pace. This is helpful because of time management and time differences. You know, we are not all in the same place. This helps. This makes me think I can do it.

SOCIAL provided additional benefits to IP2 and they compared this experience with SOCIAL to other professional development opportunities they participated in and how it provided additional learning surrounding online learning:

I used to participate in the US Embassy in our country in programs like the RELO program. I participated in that program and I tried to know more about the online learning. I felt like I needed more. I want to know what it is like to be in my online class or show other teachers I mentor how it is in their class. Then I joined this group and gained a lot of knowledge about online and how to make online social and share knowledge. For me, this is a huge benefit.

Continuing to discuss their excitement about this opportunity, IP2 spoke more about what they enjoyed and benefited from with this group:

So you know the experience we got from each other and you in the group and your support each time it was like epic. I really liked it and I was super excited. This program will change a lot of people because it changed a lot in my mind and in my teachings, too, and in my action plan. This changed how I teach and mentor.

A focus of SOCIAL was connection and collaboration and IP3 provided some interesting insight into how the participants were working with each other during this experience:

I also want to add, sometimes I could see that you were wanting us to do things in the group, on Facebook. I know five or six of us, we worked together in other programs and we worked together in this and we did not put any of that in the group. But, it was very important for us to have the group. We had another group and we communicated with each other from before, like I said. So, we had that channel open. Your group guided us and it was good. We learned from you and each other.

IP3 also stressed the value they found in the format and experience to help break up the isolation that they, and others they worked with, felt when trying to learn and become better at their profession:

So this is why I think that teachers should work as a team in collaboration for their own benefit, and to develop professionally. Just like we did in this experience and group, work together to learn. Most of us stay in that kind of isolation and what I call to be isolated from others. This is not good. Your group showed me how to bring this together and bring people together no matter where they are. This is important for me since I have so many schools and teachers to work with.

Participant feedback and provided valuable insight into SOCIAL and the experience. IP1 took the opportunity to provide some thoughts on this experience:

I want to thank you so much for your efforts and the information and resources that you shared with us. I already enjoy surfing them, and get a lot of benefit from them. And also choosing the topic of online is very crucial nowadays, and because all of us began to focus on this, the type of learning, and we need to know more and more how to deal with this and how to gain information about it. Time can be tough for us so maybe the structure was too free or maybe not free enough. I know you did schedule some Zoom sessions so that was nice but maybe have a WhatsApp group to help with more communication. We are all on WhatsApp.

Like IP1, IP2 expressed gratitude and the benefit of this program and what it would have on their professional development as well as the difference it will make in their classes and with their colleagues:

Well, I'd like to say that, Charlie, this was the best. You are always supporting us, always smiling, and this is I myself like to be like him. I want to have that in my class and I want to share that with those I mentor. This has benefited me and will benefit those I teach. I learned how to do it from this experience. Not just learn knowledge but learn action. That is so important. Thank you, Charlie, for making me part of your wonderful program.

IP3 concluded their comments by expressing some ideas they felt were important as well as some insight into what they got from this experience:

It is a rich experience and one I am taking good things from. What I would like to match is the connectivism principle and also that we are people and it is important to have this interaction. I love it. You know something which is, which is really about how we interact and learn. You know, we interact with people. We are learning because everyone has his own experience. You showed me how to bring this together. How to bring people together when they are not close to each other. It is the richness that I appreciate. I hope to share another experience with you so I have more I can take to my teachers. Thank you.

Each participant discussed the value and benefits they found important from this experience. They discussed how they could apply this experience to their professional context and, in some cases, how they could replicate it. Candidly, the participants expressed their gratitude and appreciation for this experience and shared how it has impacted them professionally.

Quantitative Findings. In both the pre-and post-innovation surveys, I asked participants to assess their connection to Social Presence (SP) concepts to gain insight into the benefits of participating in SOCIAL using a 6-point Likert scale. The questions can be found in Appendix A and Appendix B.

Descriptive statistics on both the pre-and post-SOCIAL participant responses appear in Table 8. The post-SOCIAL response mean increased by half of a point, which indicates that participants perceived themselves as having a stronger understanding of and connection to social presence concepts. This indicates a greater connection between participation and feeling connected to these social presence concepts and how they relate to their professional contexts.

Table 8

Descriptive Statistics: Connection to Social Presence Concepts

	Minimum	Maximum	Mean	Std. Deviation
Construct: Pre-SOCIAL Connection to Social Presence Concepts	3.0	5.7	4.4	0.7
Construct: Post-SOCIAL Connection to Social Presence Concepts	3.2	6.0	5.1	0.7

n=19

In combination with the other themes in this analysis (advancement of knowledge and application of this experience), participants indicated not only an increase in connection and knowledge to these concepts but agreement with advancing their understanding and applying this experience to their professional contexts. According to this data, participants increased their knowledge of SP and how they connect these techniques to their professional contexts during this experience. Though as noted previously, this knowledge could be either what was gained during SOCIAL or possibly increasing awareness of what they already knew, the data shows a perceived increase, nonetheless.

Additional Data Source. SOCIAL provided an effective and engaging form of professional development for the participants. In addition to the interviews conducted and surveys collected, the research notes serve as a data source supporting this theme. Among other entries and thoughts, I was able to make note of various moments, posts, and reflections regarding how SOCIAL was beneficial as a form of professional development, with particular focus on participant interactions, including posts, chats, and interviews. I conducted content analysis on these sections of the journal.

The SOCIAL format was effective in navigating how to engage the participants and navigate the various needs surrounding time. There were multiple areas noted in the

research journal that provided insight into the parts of SOCIAL that were felt to be successful. During the first week of the launch, it was noted:

Participants seemed very excited about the asynchronous format. In particular, the ability of this format to support students from different geographic locations and time zones. Including the researcher, there are participants in 5 different time zones with up to 9 hours of difference. One participant noted, “I am happy to get to work with so many different new friends in these different places.”

In addition, given so many previous connections from their participation in TIEC programs, it was also noted that participants took the time to (re)introduce themselves to the group and the time spent responding to those posts. Of the 19 participants, there were 12 introductory posts within the first week of SOCIAL:

I spent approximately 4 hours observing the group and reviewing posts and comments that were made. Many of the group decided to share pictures and information about themselves which was very exciting to see. They also commented and interacted with each other frequently within those posts. There seemed to be excitement both for those that already knew each other and for those who were new connections.

The format of SOCIAL was noted as being beneficial particularly as it related to the timelines for each section. Early on, this was seen as a successful aspect of how this event was set up:

Given the feedback prior to the start of SOCIAL, it was important to build this in a way that provided for the accommodation of time zones and for the habits and professional responsibilities participants had. I remember from my interactions with many of these individuals from their TIEC programs, deadlines could be tough.

For participants to stay focused, each event stayed closed until its dedicated start date but then remained open for the rest of SOCIAL. One entry noted, “It is exciting to see

everyone responding and I am glad the later activities are locked down. Everyone is asking about the action plans already and we just started!”

Providing participants the ability to identify where they were starting and what resources were available was another area of noted success focused on the Situational Capacity Assessments (SCA). Early on this was noted as being a part of the introductory process that would allow participants to assess where they were starting. Noted during week 2:

In reviewing the SCAs, there are varying levels of depth in their responses. It has been interesting to read the different situational aspects and self-assessments. The varying responses do seem to suggest that the SCA is a valuable tool since everyone is clearly working within different contexts. Though their commenting on others’ SCAs has been slow, the comments that have come in provide insight into the value they see in others’ SCAs.

Additionally, some of the comments were recorded in the journal for reflection:

The comments are a mix of encouragement and feedback. One participant commented, “This was very good and I appreciate seeing it as I work on mine. I like your idea about how you are going to work with colleagues.” And another comment on a different post stated, “I faced that same challenge. Internet connection is a big problem. I provide items that can be downloaded and reviewed later. Not sure if that will help.” There were a lot of Facebook reactions as well (likes, hearts, etc.) to show support.

Though not included in the original design, “check-in” polls were incorporated during week 3 to gauge how participants were feeling. These polls were a creative and interactive way to engage the SOCIAL participants and gain a sense of how they were feeling about the experience. 85% of participants responded, “Good-this makes sense and I am enjoying it.” The rest noted they were feeling good and asking their colleagues for help as needed. Towards the end of week 4 another poll was placed in the group asking

who was excited to start their action plans. 100% responded, “I am, I can’t wait!” Finally, during week 5 another poll was created that asked participants if they would like to participate in Zoom sessions to help answer questions about the action plans. Only 4 participants responded and 2 participants noted they would like a Zoom session.

Participant motivation was an important factor in SOCIAL given the 6-week time frame and adjustments had to be made to retain interest in participating. Another addition to the plan was incorporating completion certificates to help boost the completion of the SCAs:

It has been a very slow week and progress has not been made on additional SCAs being posted to the group. In speaking with Dr. Farmakis, she noted that the TIEC participants responded well to certificates. Taking that into consideration, I created completion certificates for the participants and posted them with congratulatory remarks in the SOCIAL group. The response was amazing and within a day three additional SCAs were posted.

In addition to motivation, it was important to demonstrate the various techniques within SOCIAL that participants were learning about. One such demonstration was well received and sparked a lot of interaction:

This week I wanted to incorporate something different to mimic other SP techniques. I went “Live” on FB [Facebook] to show our weather. We had just had a big snowstorm and thought it would be fun and different from the other videos I had posted. This prompted a lot of interactions with over half the participants either commenting or showing off their own experiences with the weather.

Later on, this was highlighted during one of the interviews as something that was replicated.

After SOCIAL officially concluded, I was able to process through some of the unexpected outcomes of this innovation during the time between the completion of data collection and the start of the analysis and some final notes on successes came from my post-event thoughts. After data collection I noted, “This took longer than expected to gather data but it was worth it...100% survey completion! Everyone I spoke to loved this experience and found it very beneficial.” Building value and necessity into the data helped to facilitate the completion of all post-innovation surveys. In addition, it became apparent that much of the interaction and participation that was intended to take place within the SOCIAL group actually occurred outside of the group in their own smaller sections. It was noted in the feedback and comments that there were multiple avenues of communication, however, it seems that the participants were working together and sharing this experience with smaller groups outside of the larger, SOCIAL participant group:

Even though participants used and had positive comments on the various chat groups within the SOCIAL FB [Facebook] group, it was noted in an interview that a lot of interaction was taking place outside of the group. I followed up with the group in the General Chat forum and asked for more insight and, in fact, they did confirm they were working on sharing information and providing feedback on APs [Action Plans] directly to each other. Though I initially saw this as a critique of the SOCIAL setup, I realized that they were building connections and forming networks...exactly like I had hoped!

Connections to Research Questions. The data presented in this thematic section addresses all research questions. RQ1 (application of social presence techniques) is supported by the participants’ acknowledgment of learning through the experience. As IPs noted, experiencing the various SP techniques allowed them to find ways to utilize

these techniques in their contexts. In addition, the quantitative data showed a stronger connection to social presence techniques post-participation in SOCIAL indicating not only an advancement of knowledge but also the ability to apply these techniques in their contexts.

This data supports RQ2 (creating similar environments), particularly through the IPs expressing the various ways in which they were going to apply this experience to create similar learning environments and opportunities. IPs expressed that by experiencing SOCIAL as a way to build connections, they were able to apply the various techniques to their contexts. Participants directly discussed using video, Facebook Live, and chats to create similar experiences. Participants discussed the value of this type of experiential learning, not only for the various techniques that were demonstrated but also for the delivery method and structure of the experience.

Finally, this thematic section supports RQ3 (SOCIAL as an effective form of professional development) through the various qualitative data provided in this section. IPs expressed that they felt the experience of participating in SOCIAL was beneficial particularly because of the structure, format, and pace. Having a formalized structure with specific resources was noted as an important part of SOCIAL and one that IPs expressed a desire to replicate. Participants expressed their gratitude throughout the experiences as noted in both the interviews but also in the research journal. The research journal also provided feedback on the various tools used including the Situational Capacity Assessments, check-polls, and overall structure and format. These notes were supported by the various comments provided by participants.

Summary of Results

This analysis reviewed data that gave pertinent information which was beneficial in understanding the context of the participant group and providing a lens through which the rest of the data could be viewed. The convergent parallel design of this study provided the opportunity for the data to be analyzed independently of each other and triangulated in summary around common themes. The three prevailing themes of knowledge sharing, building connections, and being beneficial to professional development provided opportunities to bring the data together in a way that provides valuable insight into this study and helps to address this action research study's research questions.

The data collected during this action research project was presented in the themes mentioned and show support for all research questions through both examples given by participants during interviews and in the various activities that were completed in SOCIAL and through the surveys conducted pre- and post-innovation. Data indicated participants were successful in taking the social presence techniques they learned through content and modeling and finding ways to apply those techniques in their professional contexts. This application was both in theory (Action Plans) and in practice (application before the end of SOCIAL). The data also identified numerous ways participants were able to plan and, in some cases, implement similar learning environments within their own contexts. This was identified through the utilization of common social media tools not previously used for learning and through explicit replication of SOCIAL. Finally, SOCIAL was identified as a beneficial and productive delivery method for professional

development as indicated through interviews, survey data, and other data sources.

Participants provided insight into the knowledge they gained by participating in SOCIAL while research notes identified successes and areas for future improvements. Each Research Question will be discussed more thoroughly in the concluding chapter.

CHAPTER 5

DISCUSSION

“Because, you know, you have your own experience. I have mine, and we are meeting, connecting together, and this connection gives birth to something really magical, which is to learn from others. This is what makes the experience a rich one.” — SOCIAL Participant

The preceding chapters provided context, support, method, and data for this action research project. This final chapter discusses this research’s findings and how those findings may impact virtual learning environments for both students and educators. As previously mentioned, a main tenet of Connectivism is that more important than what is known today or at any given moment is gaining the ability to learn what may be needed for tomorrow (Siemens 2004). As virtual learning adapts to our changing educational landscape and becomes more utilized in traditional educational settings, administrators and educators must adapt to how they teach and view educator development. As such, innovations in both the development of educators and the education process itself must be explored and allowed to shape this modern, blended educational system.

This concluding chapter discusses the purpose of this research in both this specific context and the broader context as it relates to transferability. I then discuss the findings and utilize those findings to address the three research questions posed at the beginning of this project. The limitations of this project are discussed and then I move on to highlight any implications for practice. Of particular interest to me is the scaling up and

transferability of this action research. Finally, I provide my concluding thoughts on the experience.

Purpose of this Research

The purpose of SOCIAL was to utilize Facebook to provide educators with a way to learn about social presence and connectivism. SOCIAL was also an environment that allowed those educators to experience how those concepts impact their own learning. In developing SOCIAL, I used the tools provided within Facebook Groups to create a connected and collaborative space that encouraged participants to embrace these concepts and experience them directly through the use of different techniques. This allowed them to humanize their presence in the group and learn about and learn from each other. The group participated in “Events” designed to both highlight certain concepts or techniques and provide experiential learning of those techniques as they completed various tasks. The tasks were designed to culminate in an Action Plan that each participant would create to showcase how they would implement this learning in their contexts.

This action research project set out to explore two main areas in the virtual learning space. First, this research focused on how to provide a more connected and social online learning experience for both teachers and students. Specifically, the goal was to determine how participation in SOCIAL helps faculty provide opportunities for social interaction and learning within their online contexts. By providing these types of opportunities within their contexts, the experience for all of their participants would be one that fostered more connected virtual learning environments that promoted social networking and knowledge sharing. Second, this research set out to determine if the

development experience itself could impact how the participants shared and implemented the knowledge they gained. Of particular interest was whether providing this type of development within the same educational context as where participants taught (virtual, asynchronous, and diverse) had a direct impact on their ability to develop and deliver similar virtual learning experiences to their students.

Aside from the specific areas explored, there was also a broader context of this research around how to re-think professional development. This involves exploring how to use unconventional means, in this case, Facebook, and incorporating tools and techniques that can positively impact and support participants who live in different regions. This has implications not only for organizations such as TIEC but also for any institution that embarks on a goal of fostering collaboration and connectedness that eliminates geographical barriers. This ultimately will reshape how online learning happens and incorporate a social aspect that improves the experience and outcomes of all participants.

Discussion of the Findings

The previous chapter described the qualitative and quantitative data as they relate to the themes of building connections, sharing knowledge, and being beneficial to professional development. Having completed this research using a convergent parallel mixed methods design, this thematic analysis structure helped provide a structured analysis of the collected data. In this section, the findings will be discussed as they relate to the three research questions asked throughout this action research project:

RQ1: For college faculty who previously participated in TIEC development/training and continue by participating in professional development within a virtual, collaborative, social learning environment, how does that experience drive their application of social presence techniques in their classes?

RQ2: For college faculty who previously participated in TIEC development/training and continue by participating in professional development within a virtual, collaborative, social learning environment, how does that experience advance their knowledge and utilization of techniques to create similar learning environments within their own contexts?

RQ3: How does utilizing social presence techniques in the delivery of SOCIAL impact the effectiveness of SOCIAL as a form of asynchronous professional development?

Research Question 1 (Application of Social Presence Techniques)

The post-participation survey and participant interviews demonstrated an application of social presence techniques to their own contexts through their responses and descriptions of how they had included these techniques in their Action Plans (AP) and how they were implementing or planning to implement what they learned in their environments. The SOCIAL participants entered into this experience with a unique mindset regarding their professions and development. The participants all fall into the “middle” group briefly mentioned earlier. This group is not resistant to change; however, they are also not necessarily willing to explore and test out different innovations on their own. They are, however, willing to seek out development opportunities and have a

sincere desire to learn and grow in their professions. For these participants, online learning and utilizing tools from the internet was a relatively new concept prior to their participation in TIEC and the pandemic. Whether they taught in classrooms, provided mentoring, or helped to develop other educators in a formal sense, embracing online learning and finding ways to use virtual tools effectively was important to these participants.

RQ1 seeks to identify how participation in SOCIAL helped drive the application of social presence techniques in their professional contexts. SOCIAL and this action research project was built upon the Community of Inquiry framework emphasizing social presence (SP). As previously noted, SP is “the ability of the participants in the community of inquiry to project their personal characteristics into the community, thereby presenting themselves to the other participants as ‘real people’” (Garrison et al., 1999, p. 89). I posit that learning is a social function and through collaboration, network building, and humanizing of faculty and students, online learning environments can significantly improve.

The collected data addresses this RQ by providing qualitative data through the experiences and words of the participants and quantitative data which provides a broader perspective of the entire participant group. A key aspect of SOCIAL was that it was a professional development opportunity that provided knowledge in a way that sought to demonstrate that knowledge through application within SOCIAL itself. SP was not simply taught or discussed; it was demonstrated throughout the experience. Participants took part in these various SP techniques as a way to learn about the techniques. The

expectation was that this experiential learning would facilitate the application of similar techniques in their own virtual learning environments.

Participant interviews identified an important fact, that participants had already begun to incorporate these techniques in their environment before the completion of SOCIAL. Participants noted the structure of the experience as one that was meant to teach through exposure to these various techniques. When I used Facebook Live, Messenger Chats, or other techniques to facilitate learning about SP, participants both responded during the experience and noted in their interviews that they recognized what was being demonstrated, particularly when I engaged participants with Facebook Live videos about the weather in my location. This prompted participants to add videos and engagement opportunities within their APs and directly apply them to their context. Participants identified this as a way they can also build connections by humanizing themselves and their students in the learning process. Providing a space for this to take place was another key aspect for the participants. It was important to provide opportunities and virtual spaces to connect and share experiences and share about themselves.

Beyond videos, participants experienced new ways to utilize Facebook Groups and messaging/chat features found on the platform. SOCIAL utilized various Messenger channels within the group to facilitate conversations, provide support, and give a space where participants could connect with each other outside of the main group posting space. Participants mentioned these various connection spaces in interviews and discussed applying them within their contexts in the APs. Multiple participants discussed

incorporating other resources such as WhatsApp and Zoom meetings to foster connection and provide spaces for interaction, collaboration, and sharing.

Aside from building these connections, participants discussed sharing this knowledge with colleagues and mentees. The idea of sharing this knowledge with others and building these connections was where I saw Connectivism influence the SOCIAL experience. As previously noted, George Siemens (2006b) stated that connectivism is based on creating and forming networks in which we dialogue and learn with others. His perspective, and one I share, sees learning and being educated as having the ability to act in creative ways within the world based on connections (Siemens, 2008). Of particular interest to Siemens is the need to gain insight into what is needed to successfully learn in the digital age and understand digital learning. Participants frequently referred to building connections and sharing the knowledge they gained with others during SOCIAL in both in-group posts and during the interviews.

That theoretical perspective, which emphasizes social and intellectual connections, shaped the structure of SOCIAL from the conception of the experience. The participants embraced these ideas and shared their knowledge of SP and the various techniques with others in their professional contexts. This knowledge sharing allowed them to showcase their understanding of SP techniques and the experience through which they learned about the techniques. Participants discussed sharing ideas about using video, chats, and discussion spaces with colleagues and how many of them planned to implement similar techniques in their contexts. Specifically, some participants discussed

demonstrating these techniques with the teachers they oversaw and the mentees whom they supported.

The quantitative data suggest that participants gained a stronger understanding of social presence concepts and felt strongly that they could apply what they learned to their contexts. At the start of the experience in the pre-participation survey, all participants ($n=19$) were asked to rate how frequently they used various SP techniques. The mean for this construct was 2.8 which fell between the responses of 2 (rarely) and 3 (sometimes). This was not particularly surprising since many of these educators are fairly new to online learning and some are still implementing things they learned in their development with the TIEC team. Not to mention, these educators work in the Middle East/North Africa (MENA) region where online learning is still developing.

In addition, there was an increase in the construct's mean of the pre-and post-SOCIAL responses to the participants' connections to SP concepts (4.4 and 5.1 respectively) which indicates an increase in connection to and understanding of SP concepts after participating in SOCIAL. There are two potential explanations for this increase. First, participants simply learned about these concepts and therefore could identify them easily after SOCIAL. They could have recognized these concepts in what they were already doing within their virtual learning environments. The second explanation is that the participants gained new knowledge and expanded their understanding of these concepts. Given the lower responses when asked how often they used SP techniques, I believe this second explanation would be the correct one. This is further supported by the post-participation survey constructs of advancement of

knowledge and application of this experience to their professional contexts. Both constructs had a mean that indicates participants gained knowledge on these topics and felt they could apply them (5.3 and 5.5 respectively).

These findings provide both broad and specific references to how SOCIAL participants viewed their experiences and how they applied or planned to apply this knowledge to their professional contexts. By highlighting how the participants perceived and related their experiences in SOCIAL to the concepts being introduced, the findings indicate that this experience did impact their knowledge of SP techniques. Furthermore, the participants indicated the application of these techniques and this experience both in their virtual learning spaces and within their professional environments in general. Taken together, this all indicates that their experience in SOCIAL had positive impacts on their understanding and application of SP techniques in their contexts.

Research Question 2 (Mirroring of Social, Collaborative Learning Environment)

The data presented in the previous chapter demonstrate that participants applied the knowledge gained during SOCIAL and used it to create similar environments in their professional contexts as shown through their Action Plan descriptions and through their pre-completion applications of what they learned. This action research project and the SOCIAL experience went beyond simply teaching about social presence techniques or the concepts of Connectivism. An important aspect of SOCIAL was also presenting the experience in a way that would help teach about the structure of SOCIAL. Traditional professional development opportunities will usually focus on a skill or knowledge base that is being taught or refreshed. SOCIAL was designed to not only help participants

strengthen their understanding of the concepts but also experience them in a way that would foster application within their own contexts.

RQ2 focuses on how SOCIAL participants' experiences helped them take the knowledge they gained and use the various techniques to create similar learning environments within their own virtual communities. The goal was not to push participants to create their own mimicked version of SOCIAL but instead provide an experience that would expose participants to as many SP techniques as possible. It was also important to showcase the various non-traditional tools that were available through Facebook. Ideally, participants would not only learn about the techniques but experience them in new and unique ways that would inspire them to apply them within their contexts. During the interviews, participants would speak directly about how they were going to use aspects of SOCIAL such as Facebook/Facebook Groups, Messenger, and engagement techniques in their professional settings.

As participants discussed how they would share knowledge and build connections, creating space for this to happen was central to both topics. As noted, this was not a physical space, but a virtual one that provided ways for all who were involved to share who they were, build lasting relationships and connections, and share knowledge. As previously mentioned, "Relationships are defined by convenience and interest, not by geography. We can work wherever and whenever. Time and space no longer limit global conversations" (Siemens, 2006a, p. 72). Many participants discussed the geographic isolation that their students and colleagues felt either due to the pandemic or living in more rural, isolated areas. As one participant mentioned frequently in their

interview and Action Plan (AP), the time spent traveling to be physically present in these various locations was not a viable option for helping to develop teachers. In that scenario, using both the concepts of Connectivism and Community of Inquiry/Social Presence and the tools they were exposed to in SOCIAL such as Facebook Groups, Messenger Chats, Live videos, and images were central to their AP. For this participant, their AP was not conceptual but already in use before the end of the SOCIAL experience.

Other participants discussed ways in which they were applying the structure and tools of SOCIAL in their APs and in practice. One participant was very excited to start implementing some of the SP techniques and online tools with a group they were already familiar with and working with even before implementing their AP with the following new group of students in their courses. For them, the opportunity to provide a space using tools such as WhatsApp and Messenger allowed them to incorporate ways to achieve their goals of connecting with each other and sharing knowledge. The space they created utilized tools found in SOCIAL as well as tools already familiar to them to bring students closer to each other and to the teacher.

Another participant discussed structuring their AP in a way that was almost an exact replica of SOCIAL. Their focus was providing a space to help mentor the educators they worked with and also provide ways for them to connect with each other and share techniques and educational best practices. They mentioned that having resources that were specific and readily available within SOCIAL was helpful since it helped keep people from feeling overwhelmed with searching for things. Their AP also stated they were going to build a Facebook Group and use the same types of group structure and

messaging resources that were experienced within SOCIAL. This participant spoke about how with such a large group of people they work with, using the internet and Facebook, in particular, was a great option. Facebook is already widely used among that group of educators, so it would be comfortable for them.

The quantitative data suggest that through advancing their knowledge of SP techniques during SOCIAL, participants were able to replicate the various techniques they experienced in their contexts and Action Plans. The quantitative data provide support for this RQ through two constructs that were part of the post-participation survey. Participants were asked questions about their advancement of knowledge by participating in SOCIAL as well as the application of this experience to their professional contexts. As previously mentioned, both constructs' descriptive statistics identified means that were solidly in the "agree" scale which indicates that participants agreed to two main ideas: they gained knowledge and they applied that knowledge to their contexts.

The goals of this SOCIAL experience were not only to provide knowledge but also to provide experiential learning with a framework, tools, and techniques that could be applied to the participants' various professional contexts. Participant agreement in these areas indicates SOCIAL was able to provide this experiential learning and prompt participants to apply these techniques, which is supported by the interview data. The participant responses from the entire group support what was highlighted in the qualitative data and interviews.

Though the intent was never that SOCIAL would be replicated by participants within their own contexts, it was important to determine if the SOCIAL experience

provided the knowledge and experiential learning to inspire participants to create similar learning experiences. The APs provided concrete plans for various aspects of the experience to be incorporated into these various contexts. The interview participants described not just their plans but also the actual application of SOCIAL-like experiences within their various virtual environments. Finally, the post-participation surveys strongly indicated knowledge advancement and application of these experiences by participants. All of this indicates that participants gained the knowledge and desire to create similar learning experiences within their contexts and apply the techniques and tools they were exposed to in SOCIAL.

Research Question 3 (Social Presence and Professional Development)

The feedback from the participants and observations I made indicate that utilizing social presence techniques was an effective way to deliver professional development during this SOCIAL experience. Beyond the focus on the participants' knowledge-building and application of what they learned in their contexts, this action research project also focused on SOCIAL as a form of effective, asynchronous professional development through its use of social presence techniques. I designed and developed SOCIAL as a potential option to help education professionals from all over the world come together to connect and share knowledge. In addition, SOCIAL targets those professionals who fall into that middle group of educators previously referenced. As these educators seek out professional development opportunities beyond traditional training and development, it is important to determine if learning experiences outside of a typical professional development format would be beneficial and desirable.

RQ3 focuses on determining how the use of various social presence techniques and tools impacts the effectiveness of SOCIAL as a form of asynchronous professional development. As previously stated, the SOCIAL experience was not just about the participants' knowledge development but also about experiential learning through the utilization of the same SP techniques and tools discussed in the material. As discussed earlier, professional development opportunities that engage and expand upon a connected, networked, and social learning environment showcase how the knowledge that exists within a community is heavily related to the opportunities that are present for members of the community to engage in knowledge-building activities and related work (Siemens et al., 2020). The goal was for SOCIAL to provide another pathway to expand upon those opportunities.

Professionals participate in development opportunities for many reasons, many of which center around gaining or refreshing knowledge. The goal is to end the experience with more knowledge and ideas for improvement than when the development opportunity started. The data indicate that SOCIAL participants gained knowledge and found ways to apply this experience to their professional contexts. This was identified through interviews, surveys, and Action Plans. Of particular interest, though, is how the utilization of these same social presence techniques they were using impacted how effective SOCIAL was as professional development.

The first way to assess this effectiveness is through the direct responses of the participants. In both interviews and open-ended questions attached to the post-participation surveys, participants provided insight and opinions into the various aspects

of SOCIAL. Multiple times in interviews, participants noted they recognized that I was demonstrating the different SP techniques within the SOCIAL experience. Participants noted that by posting images and using video during some of the instructions for each Event, they felt more connected to me as a facilitator and recognized that I was demonstrating what I was asking them to do during this experience. When designing SOCIAL, I felt using SP techniques such as video, images, and personal stories would help humanize each of us and allow us to build a connection that transcended learning and went beyond the screen. During the interviews, multiple participants recognized this as effective and, based on their experience, incorporated these techniques into their APs.

Another example of using the SP techniques to help with the effectiveness of SOCIAL was utilizing a very non-traditional tool, Facebook Live, to build a connection with the participants and further demonstrate how SP can be an effective tool for virtual learning spaces. Since these participants were located in much warmer climates, I decided to provide them a way to connect with me, as a facilitator and researcher, and my very cold Minnesota climate. By hosting a Facebook Live quick session, I was able to share my yard and all the snow we were getting during an exceptionally cold winter. This was referenced in three of the interviews as something that stood out for them because that was when they recognized the power of building that connection. This was credited as a moment that helped make the material they were learning about come to life.

The second way to assess the effectiveness is through the observations I made as a researcher during this action research project. As I reflect back on the observations made during this experience, I noted that during the times I utilized SP techniques in the

delivery of information or engagement of participants, there was more interaction and discussion happening within the group. Administrative reminders and instructions did not often get much interaction from the group. In fact, often tasks would not be completed with those instructions alone. I found that when I utilized video, especially video where I was connecting with them on a personal and human level, there would be far more engagement. I learned that if reminders were not prompting more participants to complete the tasks, I could record a video that would allow me to be more animated and talk about how the task fits into the larger project in a way that would get lost as a written post. Another important aspect of the videos was allowing them to get to know me. An example of this is that I would wear apparel from my various college experiences and briefly mention something about it. These posts always gained comments and reactions in ways that the other posts did not.

Another way I noted SP techniques being effective in the delivery of SOCIAL was through how I would engage with the participants. One way to interact that was effective was when I introduced “polls” into the Facebook Group. My generic posts asking if anyone needed assistance and my questions in the group chat, typically questions such as, “How is everyone doing?” went largely unnoticed and not responded to or interacted with in any meaningful way. The utilization of polls allowed participants to actively showcase how they were feeling about whatever was being asked. This provided a lower barrier to participation even if, in a formal sense, it was less interactive. This could have been overall feelings about the experience, questions about specific tasks, or even checking in on the progress of Action Plans. Making the responses more

engaging and fun was key to the engagement. If I asked, “How is your progress coming along with your Action Plans?” as an example, I would provide responses such as “Flying through it...try to catch me!” or “I’m stuck in the mud...can someone help out?” I also gave them the option to add their own creative answer. Participants would comment on how fun that was and I noted that engagement with the experience and each other would rise after these polls.

Finally, seeking direct feedback is a good indicator of how successful something is and what could be improved. Throughout the interviews and open-ended survey questions, participants provided direct feedback on the SOCIAL experience. Aside from suggesting adding WhatsApp and more Zoom opportunities, participants were overall very positive and grateful for the experience. Interview participants were grateful to have the various SP techniques demonstrated and utilized within the experience. They stated they gained a greater understanding and connection to these techniques and tools, which was also indicated in the post-participation survey responses.

As previously highlighted, action research is defined, in one capacity, by the cyclical nature of the work that is done and the continual improvement made upon an innovation or intervention. Addressing this RQ, then, serves an important and imperative purpose in this process. If I were to run SOCIAL again as an additional cycle of research, I would make two design changes that I believe would help with the overall experience. First, I would provide a more detailed “roadmap” of what the SOCIAL experience would look like. I believe this would help them connect the various activities and materials with the overall experience and goal of SOCIAL. Second, I would seek to incorporate more

communication channels that align with the participants. In the end, it was clear that using Zoom and/or WhatsApp would have been beneficial ways to engage with the participants more.

The most important contribution of this study was showing that with the experience of non-traditional development platforms and structuring and experience that both taught content and demonstrated it, educators can be innovative in how they develop virtual learning spaces and how all participants engage and learn in those spaces. SOCIAL sought to engage a non-traditional platform (Facebook) and use it as a space to create connections, build knowledge, and provide development opportunities that did not rely on geographic proximity or specific timeframes. It was my goal to do this in a way that demonstrates the techniques and tools in a way that provided the participants with an experiential learning opportunity that was unique and applicable to their professional contexts. Throughout the interviews and in survey responses, participants stated that the use of social presence techniques in SOCIAL had a positive impact on their overall experience.

Limitations

I have identified four primary limitations noted with this action research project. The first limitation is Facebook as the platform for this experience. As I have noted numerous times, Facebook has provided a unique and somewhat robust platform for SOCIAL. That being said, Facebook Groups has limitations on the flexibility of the platform particularly as it relates to displaying information outside of a “timeline” format and integrating the various Events inside of the group. This caused some confusion

among participants as to where different things were located and, in the case of the Messenger Chat functions, caused them to be taken out of the Facebook App and into the Messenger App on a mobile device. The difference between the desktop interface (which I was using) and the mobile application interface (which most of them used to access Facebook) was enough to impact the experience. Though this is often tested from a User Experience aspect in the development of platforms, it is not often mentioned when using the platform as a user. The functionality may be the same, but the interface can be enough to provide a different experience depending on which version is being utilized. Additionally, Facebook was the only social platform used for this action research so it is impossible to discuss benefits or transferability with other social platforms.

Another limitation of this research is that of time. First, the timing of this particular innovation proved to be problematic. Participants were mainly from the Middle East/North Africa (MENA) region and primarily Muslim. The majority of this innovation took place during the holy month of Ramadan. The adjustment of their days, fasting, and religious obligations impacted their ability to participate in SOCIAL. Second, the significant differences in time zones did have an impact on this study. Participants were in 4 different time zones ranging from 1 to 3 hours apart and all participants were between 8 and 11 hours ahead of my time zone. Though this was designed to be asynchronous, being able to engage more in real-time via Facebook would have been beneficial to this experience.

The third limitation I noted was the inconsistent completion of tasks by participants. Although all participants ($n=19$) completed both the pre-and post-innovation

surveys, only 10 participants submitted their Situational Capacity Assessments and only 4 submitted their Action Plans. This level of participation did not provide me the opportunity to identify how their participation had impacted their Action Plans and also did not provide as much opportunity for participants to engage with each other within the Facebook Group regarding their Action Plans. An interesting note, however, is that all except two participants referenced their Action Plans in their post-participation surveys. This indicates they completed them but did not submit them for review and feedback from the group.

The final limitation is the previous connections between some participants from TIEC and other opportunities they had to work with each other. This was an unintended limitation and the impact it had on the study was not realized until I was conducting interviews with participants. During our interviews, I noticed that participants were referencing work and conversations I had designed to happen within the Facebook group but that I had not witnessed. Finally, one of the interview participants noted they all had a smaller outside group chat where they participated and did the work assigned to them in SOCIAL. Some of that work made it back to the Facebook group, but most did not.

Implications for Theory

Early on, this study focused on two theoretical perspectives: connectivism and the community of inquiry (COI) framework. I return to those perspectives briefly to discuss what implications this study has on both of them. Starting with the community of inquiry framework, I heavily focused on the concepts of social presence and how that aspect of COI greatly influenced SOCIAL's core activities and structure. As mentioned, social

presence is “the ability of the participants in the community of Inquiry to project their personal characteristics into the community, thereby presenting themselves to the other participants as ‘real people’” (Garrison et al. 1999, p. 89). As noted by participant interviews and surveys, SOCIAL helped participants gain not only a strong understanding of social presence through content but also through the demonstration of the various techniques and experiential learning. Participants recognized when I modeled social presence techniques to connect with them and present myself as “real” and they replicated those efforts in SOCIAL and in their own contexts as expressed during interviews and the action plans.

I noted earlier that deNoyelles and colleagues (2014) argued that although much of what was found looked at enhancing cognitive presence, very little was found about enhancing social presence. In addition, Oyarzun and Morrison (2013) noted much of this research conducted around COI and online learning has primarily looked at asynchronous models and noted that social presence was the connector between cognitive and teaching presence. With the growth of online education and virtual learning environments, having only an academic understanding of COI and social presence is no longer enough. Educators and administrators need to have an experiential knowledge in order to understand how incorporating social presence techniques in these environments is beneficial for all participants and can help with positive learning experiences. SOCIAL has helped to highlight how that can happen.

Next, this study contributes to and deviates from George Siemen’s thoughts on connectivism. Siemens (2006b, 2008) notes that connectivism is based on creating and

forming networks in which we learn with each other and that knowledge is distributed across these networks. For Siemens, “the act of learning is largely one of forming a diverse network of connections” (Siemens, 2008, p. 10). In a very simplistic breakdown, Siemens believes the network will draw in those wanting to learn or a “build it and they will come” concept. The network, then, is central. Though I believe the network is essential, I believe there is a great need for facilitators and leaders to help guide the network through the learning process. This could be through design and delivery of content (facilitator) or sharing knowledge learned elsewhere (group leader). The network itself, based on this study, could not do that on its own. There would need to be some intervention by one or more network participants.

As I see SOCIAL deviating from Siemen’s more traditional understanding of connectivism, I also see it beginning to make a connection between the network focus of connectivism and Jim Gee’s (2005) “affinity space.” These affinity spaces are spaces where likeminded individuals come together because of common interests or goals. Gee discusses features defining affinity space, some of which align with the goals of SOCIAL. Gee says that these common interests, not race, gender, class, etc., are the primary reason people join these spaces. He also states that all participants interact in the space: experts and “newbies” alike. Participants are not segregated based on skills and knowledge, allowing them to learn from each other.

Additionally these spaces, according to Gee, encourage participants to share both specialized and broad knowledge providing for a rich and diverse learning space. Finally, Gee posits that affinity spaces encourage both individual knowledge as well as distributed

knowledge where participants can connect this distributed knowledge with their own individual knowledge and contexts. Though not all features of Gee's affinity spaces line up with SOCIAL, it is clear that SOCIAL demonstrates how this modern, virtual, post-pandemic learning environment begins to bring together traditional connectivism and affinity space into a new version connectivism that seems to depart from the original network concept as presented by Siemens.

Implications for Practice: Scaling Up and Transferability

The nature of action research in the field of education is one of continual improvement and assessment to help better our educational environments. This project has practical implications for scaling up and transferability within my professional context and beyond. This project has the potential to effectively expand upon what the Online Global Community (OGC) currently does and do so in a way that provides meaningful knowledge-sharing opportunities in a structured and creative virtual environment. This project also has the ability to go beyond the OGC and TIEC and transfer to other learning environments and even outside of the educational setting.

As it relates to scaling up, SOCIAL must be assessed in two ways. First, how can it serve as a template that impacts how TIEC partners with schools and educators across their network and the globe? Sutton and Rao (2014) discuss using a template when scaling up and adjusting as needed. Part of what made SOCIAL possible was the use of a medium that was accessible and easy to utilize. Facebook is a global social media platform with expanded tools that aid connection and communication. Using this

platform as an environment to collaborate and share knowledge worked extremely well in this action research.

Using a social media platform such as Facebook is advantageous for TIEC because it provides another medium through which asynchronous collaboration and networking can take place. Part of embracing social presence is providing different spaces and ways for participants to connect. SOCIAL shows the effectiveness of moving that space from an LMS into a social media platform. For TIEC, this provides the opportunity to expand how participants and mentors are able to connect, interact, and share knowledge. Currently, the OGC is not organized as a space for learning and development and is more of a social space for previous participants. SOCIAL then would serve as a template for providing a social learning space for TIEC participants.

Second, for SOCIAL to move beyond this current stage, the innovation would need to be expanded for TIEC utilization. This brings me to another idea put forth by Sutton and Rao (2014) when discussing scaling up: needing both addition and subtraction. In contrast to the OGC which had over 500 participants, SOCIAL had under 20 participants. The smaller group presented the ability for participants to connect in a way that a larger group does not allow. The connection is particularly important since a focus of SOCIAL was to build knowledge-sharing networks.

In order to scale this for greater use with TIEC, it would be important to implement SOCIAL as part of the programming that the various groups would receive. Participants could then connect during and after their TIEC experience and stay connected with other educators and mentors who became part of their TIEC experience.

Keeping this group small enough to foster participation and yet expansive enough to offer a variety of ideas and connections will be key to expanding its use at TIEC. The goal would be to add more groups into the programming but subtracting the number of participants in each social media group (in comparison to the OGC).

Expanding these groups would also require some consideration regarding who should facilitate this type of a group and what elements would be critical to have in place for a central facilitator. If the assumption is made that the template would provide for the content in each group, the central facilitator would then be imperative for the flow, operation, and adjustment of the group. This facilitator would be tasked with ensuring that the set timeframe and activities were focused on for the experience to be successful and beneficial. Operationally, this facilitator would deploy any needed communication tools, check-in polls, and open events as appropriate. They would also need to facilitate any social presence techniques that would enhance the experience for participants. Finally, if any adjustments needed to be made during the event, this facilitator would be the one responsible for identifying and implementing those adjustments.

Going beyond the more structured experience, the groups could move into an on-going social network maintained by the participants. This would most likely require some participants to act as group leaders. The idea is that the group and network would determine its own trajectory, the group leaders would assist in facilitating new topics or new learning opportunities as time goes on and the dynamics of the group shift. This would be less of a formal facilitator role and could be held by multiple people, at

different times, and for different reasons. This type of a role would adjust based on the group dynamics and learning needs.

In terms of transferability, when considering utilizing this in another educational context, this type of experience could be transferred and replicated for schools, professional learning communities, or communities of practice. As noted throughout, one of the main points of this project was the transferability (aka replicating this as a similar experience) of SOCIAL. Unlike traditionally structured development opportunities, this experience can be transferred organically to other faculty and teachers, to smaller learning communities either within a school setting or within a professional group. A benefit of using a well-known social media platform is the ease of use and integrated tools. Time can be spent curating information and not on curating online tools.

When considering transferability, it is also important to discuss the types of participants who would be drawn to an experience like SOCIAL. As noted previously, this study and innovation targeted a specific type of educator. Of particular focus were the group of “middle” educators, meaning, those that were not as innovative as early adopters and not as hesitant as non-adopters. This group had a sincere desire to embrace technology, innovation, and creative experiences; however, they did not have the mindset or understanding of where to start. This group of educators were passionate about their professions, contexts, and students. The easiest way to describe them would be educators who want to embrace change but are not sure where to start.

The question then turns to whether or not SOCIAL could be adapted to more resistant faculty/educators. The optimistic answer would be “yes” while the realistic

answer would be “possibly.” When thinking about transferability and moving SOCIAL into various educational settings, how this question is answered really does depend on the environment and the level of resistance. Setting aside those who would never engage in social media or use the internet in this manner, there are two main reasons why resistant faculty may embrace SOCIAL. The first would be that it provides them a way to connect and bring life to a seemingly life-less delivery method. Humanizing these virtual learning spaces could overcome the fears of losing connection with their students. And second, even the most resistant educators recognize the major shift that is happening with online education. If they truly want to continue as relevant educators, they know they must adapt. SOCIAL could help with that process.

The final thing to consider pertaining to transferability is considering how this can be applied to a non-educational setting. There are certain considerations that need to be discussed as it pertains to social media usage in different professional settings and this is not the goal of this project and discussion. However, if using social media platforms is acceptable, there are ways to transfer the SOCIAL experience to non-educational settings. Although Facebook was used as the platform for SOCIAL, other social media platforms also have various tools that could be used. Many platforms already have groups aligned with professional organizations or interests, but many of them have high member numbers, similar to the OGC. The structure and concept could be transferred into these other platforms as well and smaller learning networks could be established.

Expanding upon this, the concept of SOCIAL could be applied to the development of an inter-organizational social network designed to bring employees of an

organization together for connection and collaboration. In a world of increasing remote work and dispersed staff, SOCIAL could serve as a template for how to learn and grow as a geographically diverse organization. Learning does not take place in a bubble nor does it only take place in a classroom. As the world becomes more virtually connected, learning spaces become more diverse and unique and transcend traditional educational spaces.

Concluding Thoughts

This journey began with a relatively simple notion: if we want our online learning experience to be better, we have to help develop our teachers and faculty to do better in our online environments. This involves not only providing resources but also providing an experience that allows for experimentation and collaboration. Learning, whether you are referring to a formal classroom or informal skills training, is social. Throughout this project, the concepts of social presence and Connectivism provided a framework for how to envision both the classroom experience and the continued learning that takes place outside of the classroom. A space was created for those seeking to improve themselves as educators, administrators, and colleagues and those participants impacted not just their professional contexts, but also the professional contexts of all who participated alongside them in SOCIAL.

The days of slow and planned progress in education are giving way to the days of innovative, fast-paced educational advancements, particularly in the virtual learning environment. The internet provides access to endless information and infinite connection possibilities. SOCIAL took a small step in bringing together motivated individuals who

formed a group of collaborative learners and provided them with focused learning opportunities that could be applied immediately in their contexts. Formalized professional development will always have a place in education. It is time, however, to embrace learning in a new way and through unconventional means. It is my hope that this project started a conversation that will impact virtual learning across the globe and change how students and educators relate and react to online education.

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APPENDIX A
PRE-INNOVATION SURVEY INSTRUMENT

Pre-Participation Survey

Survey To protect your confidentiality, please create a unique identifier known only to you. To create this Self-Generated Identification Code (SGIC), please use the following formula: The first letter of your mother’s name, the total number of older brothers (living and deceased) as a 2-digit number, the number of the month you were born as a 2-digit number, and the first initial of your middle name (use X if you do not have one). For example:

Question Set Stem: What is the . . .	Example Answer	Code Element	SGIC
First letter of mother’s first name?	M-Mary	M	
Number of older brothers (living and deceased)?	01-one	01	
Number representing the month you were born?	05-May	05	
First letter of middle name (if none, use X)	A-Ann	A	
Subject-Generated Identification Code			M0105A

The Self-Generated Identification Code (SGIC) will allow us to match your pre-innovation survey responses and your post-innovation responses when we analyze the data.

My Self-Generated Identification Code (SGIC) is: _____ (e.g., M0105A, see paragraph above)

For the following questions, please use this scale for your responses:

1- Strongly Disagree

2- Disagree

3-Somewhat Disagree

4- Somewhat Agree

5- Agree

6-Strongly Agree

Construct: Self-perception of online teaching ability

1. I am knowledgeable in online learning.
2. I believe ongoing professional development is necessary for me to be successful in online teaching.
3. I am prepared to teach successfully in an online environment.
4. My professional development has helped me to become a better online teacher.

Construct: Connection to Social Presence concepts

1. I feel confident in presenting myself as a “person” in a virtual environment.
2. My students feel connected to their peers in my online classroom.
3. I feel connected to my students in my online classroom.
4. My students can project themselves socially and emotionally in my online classroom.

5. I can project myself socially and emotionally in my online classroom.
6. My online classroom allows learners to be perceived as “real” people.

For the following questions, please use this scale for your responses (for these purposes please think of “term” as a unit of time similar to an American semester or quarter):

- 1- Never
- 2- Rarely (1-2 times per term)
- 3- Sometimes (3-5 times per term)
- 4- Often (6-10 times per term)
- 5- Very Often (10+ times per term)

Construct: Utilization of Social Presence techniques

How often did you use the following social presence techniques in your most recent online class?

1. Personalized video introductions to your students
2. Student personalized introduction videos
3. Interactive discussion assignments such as recording a small group discussion of a discussion prompt or event topic.
4. Synchronous sessions via Zoom or some other video conferencing service
5. Pictures posted in profiles
6. Discussion and celebration of life outside of the classroom
7. Use of social media or similar to create a “free” space for students to interact with each other

Demographic Questions

1. Please list the country in which you teach:
2. What is your highest level of degree obtained?
 - a. Baccalaureate Degree
 - b. Master’s Degree
 - c. Doctorate Degree
 - d. Other
3. How many years have you been teaching (please list in whole years):
4. What instructional delivery method do you primarily use?
 - a. In-person
 - b. Blended (in-person and online)
 - c. Fully Online
5. How many courses per term do you teach online?
 - a. 0
 - b. 1-2
 - c. 3-4
 - d. 5+

6. Please list your primary subject area: (open-ended)
7. How often do you engage in formal professional development?
 - a. 2+ times per year
 - b. 1 time per year
 - c. 1 time every two or more years
 - d. I do not participate in formal professional development
8. How often do you engage in informal professional development?
 - a. 2+ times per year
 - b. 1 time per year
 - c. 1 time every two or more years
 - d. I do not participate in informal professional development

APPENDIX B
POST-INNOVATION SURVEY INSTRUMENT

Post-Participation Survey

Survey To protect your confidentiality, you were asked to create a Self-Generated Identification Code (SCIC) known only to you. The code you were asked to create using the following formula: The first letter of your mother's name, the total number of older brothers (living and deceased) as a 2-digit number, the number of the month you were born as a 2-digit number, and the first initial of your middle name (use X if you do not have one). For example:

Question Set Stem: What is the . . .	Example Answer	Code Element	SGIC
First letter of mother's first name?	M-Mary	M	
Number of older brothers (living and deceased)?	01-one	01	
Number representing the month you were born?	05-May	05	
First letter of middle name (if none, use X)	A-Ann	A	
Subject-Generated Identification Code			M0105A

The Self-Generated Identification Code (SCIC) will allow us to match your pre-innovation survey responses and your post-innovation responses when we analyze the data.

My Self-Generated Identification Code (SCIC) is: _____ (e.g., M0105A, see paragraph above)

Action Items from innovation:

1. Based on what you experienced in this innovation, what changes are you planning to make in your professional context/classroom?
2. Please list 1-2 techniques you plan to use within your professional context/classroom.

Please answer the following based on your participation in the professional development innovation. (These questions are similar to what you answered in your pre-innovation survey.)

For the following questions, please use this scale for your responses:

- 1- Strongly Disagree*
- 2- Disagree*
- 3-Somewhat Disagree*
- 4- Somewhat Agree*
- 5- Agree*
- 6-Strongly Agree*

Construct: Self-Perception of online teaching ability

1. I am knowledgeable in online learning.
2. I am prepared to teach successfully in an online environment.
3. I believe ongoing professional development is necessary for me to be successful in online teaching.
4. My professional development has helped me to become a better online teacher.

Construct: Connection to Social Presence concepts

1. I feel confident in presenting myself as a “person” in a virtual environment.
2. My students feel connected to their peers in my online classroom.
3. I feel connected to my students in my online classroom.
4. My students can project themselves socially and emotionally in my online classroom.
5. I can project myself socially and emotionally in my online classroom.
6. My online classroom allows learners to be perceived as “real” people.

In addition, please answer the following based on your participation in the professional development innovation.

For the following questions, please use this scale for your responses:

1- Strongly Disagree

2- Disagree

3-Somewhat Disagree

4- Somewhat Agree

5- Agree

6-Strongly Agree

Construct: Advancement of Knowledge

1. I learned about developing a network during this innovation.
2. My understanding of social presence increased because of this innovation.
3. I learned to utilize social presence techniques during this innovation.
4. My experience provides me with the knowledge to create a similar learning environment within my context.

Construct: Applying this experience to my context

1. I gained knowledge in this innovation that I can apply to my professional context/classroom.
2. The format of this innovation is a format I would use in my professional context/classroom.
3. As a participant in this innovation, I gained an understanding of what students experience in virtual classrooms/environments.
4. I could apply what I learned in this innovation to my professional context/classroom.

Voluntary Feedback:

1. The following questions are not required but will be used to help improve the innovation for future participants.
2. What suggestions do you have for this innovation to help make it better for future participants?
3. Please list any additional comments you have:

163

APPENDIX C
POST-INNOVATION SURVEY PROTOCOL

Before recording:

Thank you for agreeing to participate in this post-innovation interview. I want to remind you that this interview will be recorded, that it will be transcribed personally by me, and that your identity would not be revealed in this process, or as I code. I will be using pseudonyms when I report results and will not use any participant's name. Can you please confirm both that you are willing to participate and are willing to have this recorded?

Opening:

Now that the recording has started, I'd like to remind you of the purpose of this interview. I will be asking you questions regarding your participation in the professional development innovation. There are no right or wrong answers and your candid feedback is truly valued. As I mentioned, your identity will not be revealed.

Now I'd like to ask questions specifically about the innovation you participated in:

1. Social presence was a main topic of this innovation, can you tell me some of the aspects of social presence that stood out to you?
 - a. Follow up: Did they stand out because they were new topics/more familiar/valuable?
2. Do you feel your knowledge of social presence was expanded? How so/why not?
3. Talk a bit about how this professional development experience differed from others that you have participated in.
 - a. Follow up, as needed: Expand on _____ a bit more please.
4. Another important part of this innovation was the concept of building a network and shared knowledge (connectivism). Tell me a bit about what you learned and experienced regarding these concepts.
 - a. Follow-up questions as needed.
5. What types of knowledge are they proud of having and sharing?
 - a. Follow up: What types of knowledge do they look to OTHERS to help them with?
 - b. Follow up: Do you feel as if this Connectivist approach (networked learning and shared knowledge) was beneficial to this professional development innovation?
 - c. Follow up: Do you see this as something different than simply using the internet? How so/why not?

Moving on, I'd like to ask you a couple of questions about how this innovation experience will impact you in your professional context/classroom going forward.

1. Why did you put (insert something from the action plan) here in the plan?
 - a. Follow up: What's most likely to succeed in your context?
 - b. Follow up: What would you have fun FAILING at trying?

2. What are the concepts you felt were most valuable to you as you plan to apply this experience to your classroom/virtual environment?
 - a. Follow up, as needed, to explain more.
3. How did this experience advance your understanding of social presence and advance your ability to apply those social presence techniques in your classroom/virtual environment?
 - a. Follow up for clarity as needed.
4. Do you feel there are any implications/obstacles you will face as you plan to implement what you have learned?
 - a. Explain more/follow up as needed.

Finally, I'd now like to ask questions about your professional background and previous professional development experiences:

1. Please tell me about your professional background:
 - a. Where do you teach?
 - b. What courses/programs do you teach?
 - c. How long have you been teaching?
 - d. Do you teach primarily online or in-person?
2. Tell me about your experiences with professional development...what types of professional development have you participated in?
 - a. What have you found valuable?
 - b. What have you not found valuable?

Finally, would you be comfortable providing any feedback on the innovation? In addition, is there anything else you would like to add before we finish this interview?

I want to thank you for your time and if there is nothing else, I am going to stop the recording.

APPENDIX D
SITUATIONAL CAPACITY ASSESSMENT FORM

Situational Capacity Assessment

The Situational Capacity Assessment, or SCA, is a tool we will use doing the first part of SOCIAL. As part of the first event, you will participate in, you'll be asked to review your own professional context and assess your ability to make change. This will be an important tool as you work towards building your final Action Plan that concludes this learning experience.

Each part of the SCA is designed to help you take an objective look at yourself and role, your technology resources, and the support you have within your professional environment. There are no "right" or "wrong" ways to respond. This is a tool for you so that you can develop your own foundation and starting point for the work you will do inside of SOCIAL.

Once you complete your SCA, you will be emailed your responses. I will also be downloading your responses as a PDF and posting them inside of the Event 1 section and tagging you in our SOCIAL group. You will then be asked to create a post, preferably video but audio or text can be used if necessary, explaining your SCA to the community and identifying areas you'd like some feedback on from the group. Each participant will be asked to review other responses and provide feedback and thoughts to help build our network and build a community of support!

Email*

Please type in your name so that I can correctly tag you in the SOCIAL group. As a reminder, no real names will be used in any final data analysis.

Part 1: Assessing your role and capacity!

This first part will focus on your role and limitations. By describing your role and assessing your capacity for being a change agent, you will develop a starting point for your action plans by determining first what is within your control and what you can do on your own.

Describe your role within the professional context in which you hope to improve/make changes.

In which areas of your professional context do you feel confident you have the capacity to make a change? Please explain.

In which areas of your professional context do you feel you will need help to make a change? Or are there areas you think you would struggle to create change within your professional context? Please explain.

Part 2: Assessing your Technology and Technology Support!

This second part will focus on the environment in which you teach/work. You are asked to evaluate your institutional capacity for implementing new technologies, technology support, availability of funds for improvements and implementation, and curriculum and academic support. It is necessary for each of you to understand the limitations of your environment, especially if you are planning to implement new technologies or will require support for your action plans.

Please describe the online environment you teach or work within. This should include a description of the environment in which you hope to implement your Action Plan. This could be an online class or an online professional learning/collaboration network.

Please evaluate your institutional capacity for implementing new technologies, technology support, availability of funds for improvements and implementation, and curriculum and academic support.

Think about your online/virtual environment and describe any limitations you have identified. For example, is the internet slow/unreliable for your students or faculty? Is there a technology barrier or a limited understanding of technology or technological resources?

Part 3: Assessing Your Support!

This third part will focus on the support of the administration at your institution. If you are not in a role that will allow you to approve the implementation of a plan, you must develop an understanding of who can assist and what the willingness is to provide that assistance and support. This will be very important if there are costs associated with your action plan or if your proposed plan falls outside of the structure or regulations that are in place at the institution.

Does your role allow you to implement your proposed Action Plan without additional approval? Please explain.

Who will be able to assist and support you throughout your Action Plan? This could include anyone you need to work with in order to gain approval and/or those that will support your proposed interventions/innovations. Please explain.

Before you are done...

Look back on your responses and your assessment...please list areas you would like to gather ideas and feedback from the SOCIAL group. You will also be asked to highlight this in your post within the SOCIAL Event/group in Facebook.

APPENDIX E
ACTION PLAN FORM

Action Plan

Using what you learned and experienced during the SOCIAL learning opportunity, describe, in detail, how you plan to improve an online/virtual course or virtual learning network through the use of social presence techniques and connected learning opportunities. You will first start by developing your goal using the SMART goal process. You will then describe your plan and identify actionable steps, obstacles, and support you may need. When this is complete, I will upload your plan into the Facebook group.

Name:

Briefly describe your goal/action plan? Just identify your basic idea to help you expand upon it through this action plan.

S: Specific. Your goal should be well-defined, detailed, and clear. Please describe the goal for your action plan in well-defined, detailed, and clear terms.

M: Measurable Is your goal measurable? You should be able to tell when you reach your goal. How will you measure your goals in your action plan?

A: Achievable Can you reach the goal, considering your available time, skills, and financial status? Please explain.

R: Relevant Is your goal relevant to your professional context? How so? Please explain.

T: Timed Set a start and finish date for your goal. Please describe your start date and end date (as best as you can).

SMART GOAL: Starting with your initial description of your goal(s), revise your goal based on the answers to the questions above.

Using what you learned and experienced during the SOCIAL learning opportunity, describe, in detail, how you plan to improve an online/virtual course or virtual learning network through the use of social presence techniques and connected learning opportunities.

Action Items

In this next section, please describe your action items and expected completion date.

This date is for you to keep your action plan and goals on target. Remember, you will not be expected to have this action plan implemented/completed by the time we are done with this SOCIAL learning opportunity.

Please list your action items and assign a completion date below.

Potential Obstacles and Solutions

In this section, you will describe any potential obstacles you feel you may encounter.

If you have some ideas for potential solutions, you can list those. You may also identify things you want to gather feedback from other participants in the SOCIAL group.

Please list potential obstacles you may experience. Please identify if you have a potential solution or if you will want feedback from the group.

Identify the support you will need.

In this section, please identify what support you may need in your action plan. This could be from administrators, technical support teams, or colleagues. This could also be support needed from your fellow participants in SOCIAL.

Please identify the support you may need as you implement your action plan.

APPENDIX F
SOCIAL EVENT MAP

Event 1: Assessing your situation.

Week 1: Access and complete the Situational Capacity Assessment. Provide it to the group and provide any explanation or requests for the group.

Week 2: Group feedback and support. Participants should be reading each other's SCA and providing feedback and comments.

Event 2: Knowledge building- creating a social presence application list.

Week 1: Participants will expand their knowledge of social presents by exploring the resources on Community of Inquiry and Social Presence. Participants are actively encouraged to add any additional resources if they find them.

Week 2: Participants will work together to asynchronously collaborate on a social presence "best practice" list and identify unique ways to apply those techniques in their settings.

Event 3: Building your action plan and SOCIAL wrap-up.

Week 1: All participants will use what they have learned to create an action plan. They will use the SCA and the work completed with the group to create these plans.

Week 2: Participants will present their action plans within the Facebook group. They will ask for any specific feedback they are seeking. All participants will review and provide feedback on other participants' action plans. At the end of this event, all participants will complete the post-participation survey.

APPENDIX G

SURVEY QUESTION-LEVEL ANALYSIS BY CONSTRUCT

Self-perception of Online Teaching Ability

		Mean	Std. Deviation	Std. Error Mean
I am knowledgeable in online learning.	Pre	4.89	1.250	0.287
	Post	5.32	1.560	0.358
I believe ongoing professional development is necessary for me to be successful in online teaching.	Pre	5.42	1.212	0.278
	Post	5.37	1.261	0.289
I am prepared to teach successfully in an online environment.	Pre	5.00	1.316	0.302
	Post	5.21	0.882	0.202
My professional development has helped me to become a better online teacher.	Pre	5.21	1.240	0.285
	Post	5.26	0.855	0.196

n=19

Connection to Social Presence Concepts

		Mean	Std. Deviation	Std. Error Mean
I feel confident in presenting myself as a “person” in a virtual environment.	Pre	5.11	0.831	0.191
	Post	5.63	0.567	0.130
My students feel connected to their peers in my online classroom.	Pre	4.26	0.806	0.185
	Post	5.26	0.806	0.185
I feel connected to my students in my online classroom.	Pre	4.47	1.049	0.241
	Post	5.11	0.697	0.160
My students can project themselves socially and emotionally in my online classroom.	Pre	4.05	0.841	0.193
	Post	4.47	1.224	0.281
I can project myself socially and emotionally in my online classroom	Pre	4.11	0.705	0.162
	Post	4.95	1.243	0.285
My online classroom allows learners to be perceived as “real” people.	Pre	4.42	0.816	0.187
	Post	5.00	0.838	0.192

n=19

Beneficial to Professional Development

	Mean	Std. Deviation	Std. Error Mean
Construct: Aadvancement of knowledge by participating in SOCIAL			
I learned about developing a network during this experience.	5.11	0.658	0.151
My understanding of social presence increased because of this experience.	5.47	0.513	0.118
I learned to utilize social presence techniques during this experience.	5.11	0.567	0.130
My experience provides me with the knowledge to create a similar learning environment within my context.	5.58	0.507	0.116
Construct: Application of this experience to your professional context			
I gained knowledge in this experience that I can apply to my professional	5.63	0.496	0.114
The format of this experience is a format I would use in my professional context/classroom.	5.42	0.507	0.116
As a participant, I gained an understanding of what students experience in virtual classrooms/environments.	5.21	0.787	0.181
I could apply what I learned to my professional context/classroom.	5.63	0.496	0.114

n=19

APPENDIX H
INSTITUTIONAL REVIEW BOARD (IRB) EXEMPTION



EXEMPTION GRANTED

Sherman Dorn

Division of Educational Leadership and Innovation - Tempe

Dear [Sherman Dorn](#):

On 12/16/2022 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Reconnecting Professional Development: Shared Learning Through the Development of Social
Investigator:	Sherman Dorn
IRB ID:	STUDY00017106
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none"> • Buehler Consent Form, Category: Consent Form; • Innovation Outline, Category: Other; • Interview and Survey Questions, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Recruitment Materials , Category: Recruitment Materials; • Revised Buehler IRB Dec 2022, Category: IRB Protocol; • TIEC Permission to Conduct Research .pdf, Category: Other;

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2)(i) Tests, surveys, interviews, or observation (non-identifiable),

In conducting this protocol you are required to follow the requirements listed in the

If any changes are made to the study, the IRB must be notified at research.integrity@asu.edu to determine if additional reviews/approvals are required. Changes may include but not limited to revisions to data collection, survey and/or interview questions, and vulnerable populations, etc.

Sincerely,

IRB Administrator

cc: Charles Buehler