ABSTRACT

MOSES, MYRA GAIL. Knowledge Contribution in a Non-Formal Virtual Setting through a Social Constructionist Approach: A Case Study of an Online Learning Community. (Under the direction of Dr. Ellen Vasu.)

This study explored an online learning community in a non-formal educational setting and the process participants used in order to share, create, and construct knowledge through their interactions in the online community. Participants in the study were college interns who were part of a grant that focused on providing professional development for interns through training them to implement leadership and lifeskills activities. The activities were conducted with youth in military families who were dealing with deployment issues.

The primary research question that guided this study was: To what extent do participants of an educational online learning community in a non-formal setting engage in sharing, constructing, and creating knowledge? Data was collected through interviewing the participants, observing the participants in online and face-to-face settings, and examining the documents and artifacts posted in the virtual spaces of the learning community. Social Constructionism served as the theoretical framework for the study, and elements of knowledge-building – constructing, creating, and sharing knowledge – were important in analyzing the findings. The study described connections between participants’ perceptions of place, sense of self, and purpose and values and their overall knowledge contribution to the community. The findings are significant regarding their potential to benefit students and educators involved in online communities associated with non-formal educational settings. The findings may be of particular interest to those who are endeavoring to create more
effective online learning environments through providing real-world professional development situations.
Knowledge Contribution in a Non-Formal Virtual Setting through a Social Constructionist Approach: A Case Study of an Online Learning Community

by
Myra Gail Moses

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APPROVED BY:

Kevin Oliver ____________________________ R. Dale Safrit

Ellen Vasu ____________________________ Meghan Manfra
Co-Chair of Advisory Committee Co-Chair of Advisory Committee
BIOGRAPHY

Myra Gail Moses was born in the Appalachian mountains of North Carolina. She began her higher education at NC State University where she earned a bachelor’s degree in English. She taught high school English for four years before returning to obtain her master’s degree in technical communication. She taught professional communication for engineering students at NC State, where she became interested in instructional technology and teaching online. She also became interested in youth leadership development and civic engagement, which led to her work with the General Shelton Leadership Center. Myra’s interest in connections between instructional technology, youth development, and civic engagement led her to seek her doctorate in Curriculum and Instruction and focus on Instructional Technology.
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CHAPTER 1: INTRODUCTION

Project YES is a virtual community of learning and practice that trains college interns to deal with issues military youth whose families are being impacted by deployment may face. Recent studies are showing that due to increases in deployment, longer deployment, and inadequate family support systems, many youth in military families are experiencing increases in symptoms of depression, symptoms of uncertainty and loss, boundary ambiguity, and relationship conflict (Houston et al, 2009; Huebner et. al 2007). The interns in the Project YES program are trained, primarily through online training, to support military youth and sometimes have to be prepared to handle sensitive issues that may potentially have serious consequences for military youth if not handled appropriately; therefore, it is imperative that they receive proper training and share what they are learning about effective ways of working with military youth. The following story is an example of when a Project YES intern had to deal with such a situation.

At a military youth event on the West Coast in the spring of 2011, a 14-year-old young woman (Aubrey\(^1\)) whose father had just returned from a long deployment was refusing to participate in the leadership activities being facilitated by Project YES interns. One of the female interns (Sophia), a college junior, at the event is considering a career in family counseling or clinical psychology, possibly working with young people. The intern noticed Aubrey had distanced herself from the group and seemed resentful about everything she was asked to do. Sophia gradually began talking to Aubrey one-on-one between the activities until she built up enough trust that Aubrey began explaining what was bothering her. She was having a difficult time dealing with her father’s reintegration with the family after his deployment. She felt that her parents were not listening to what she needed or wanted and were deliberately trying to sabotage the things she wanted to accomplish. She talked about dealing with her father’s differences in personality and actions, the anger, the distance and uncertainty, since he had returned and the stress that was putting on the entire family. She shared how she kept getting in trouble at school and

\(^1\) All names have been changed to pseudonyms.
making her parents and teachers angry, even though she wanted to succeed and go to college. She explained feeling out of control of what was happening in her life, at home, at school... and having nowhere or no one to turn to.

Sophia talked with Aubrey and shared some of her personal background from times when her life had not been easy. She talked about options and suggested people Aubrey could talk to who might be willing to help her. At the end of the event, she told Aubrey that if she ever felt like no one cared for her, she would be wrong, because she cared. She gave Aubrey her personal contact information and told her it was okay to call at any time. Aubrey kept in touch occasionally with updates about school.

One day about three months after the event, Sophia received a call from Aubrey who talked about how things had gotten worse and how she was thinking of “escaping.” The conversation continued and Sophia realized Aubrey was talking about committing suicide. She begged Aubrey not to hurt herself and to stay in touch. Aubrey agreed, but soon stopped responding to calls, texts, Facebook, or emails. Sophia did not want to get Aubrey in trouble, but she was concerned. She lived several states away and could do no more personally. She contacted Project YES staff and together they worked with military personnel to get someone involved who could get in touch with Aubrey. Fortunately, Aubrey was still alive, although she had engaged in some self-harming behaviors. The military personnel were able to work with Aubrey to try to get her some help.

Currently, Aubrey is too upset to talk with Sophia; and, due to confidentiality regulations, Sophia does not know details about what happened, but she knows Aubrey has a support system now that she did not have before. At a minimum, Sophia was instrumental in getting Aubrey help...on a larger level, she may have helped save her life. In reflecting on the experience, Sophia has come to realize how much it has helped her personally and professionally. She wants to work with people but struggles to accept her ability to connect emotionally with young people about serious issues. This has been a personal development experience that built her confidence. It has also been a professional development opportunity where she learned more about issues that are considered a “duty to report” and how to use her resources to help someone several states away.

To help her deal with the situation, Sophia referred to an online training the Project YES training coordinator had conducted about things that fall under the “duty to report” category when working with military youth and the process for reporting such activities. She also referred to Skype discussions she had with another intern regarding how to talk with military youth when they are sharing very personal things about their lives. Sophia’s actions in helping Aubrey were rooted in the knowledge she had gained from her online learning community. She was learning communication and procedural knowledge that helped her act
appropriately in a situation where her decision may have been one of life or death. Since the incident with Aubrey, Sophia has also engaged in online discussions with some of her peers about how she may have been able to handle the situation better, and how she can be more prepared in the future. She has shared her experiences about the procedural steps that have to be taken so that other interns may be better prepared if they should ever face similar situations in the future. Together, the interns are engaging in sharing knowledge about how to engage more effectively in their work with military youth. When she was asked about how to do engage in sharing knowledge and helping peers online through a technology-mediated community, Sophia said:

It's knowing how to make lifelong friendships or lifelong connections, or having someone inspire you to want to change. And how you can inspire them as well. So, yeah, that's how technology works. You have those connections to people who don’t live where you live, or don’t experience the same things you experience or have the same culture as you. You have different ways of communicating and have different ways of showing them...letting them inside your world or your life for just a little bit.

In addition to impacting interpersonal connections like Sophia described, as social media and e-learning technology continues to evolve, students are engaging with each other more frequently in online settings to create and explore meaning associated with academic concepts, as well as other areas of interest connected to their research or projects. Education professionals are attempting to facilitate the interaction of students in online learning environments with the goal of providing a rich, meaningful experience. Online learning
communities can provide a forum to facilitate knowledge sharing and encourage reflective practice (Clarke, 2009; Gannon-Leary & Fontainha, 2007; Hylton, 2007). Online learning communities can also serve as an effective venue for ongoing professional development in academic settings such as teacher education (Duncan-Howell, 2010; Yang & Liu, 2004) and healthcare education (Bryan, 2009; Reilly, 2009; Richards, 2008). Some corporate fields, such as health-care organizations (Billings, & Kowalski, 2005), and technology-based organizations (Bouhnik, Giat & Sanderovitch, 2009; Johnson & Senges, 2010), also use online learning communities as part of their continuing professional educational strategy.

Continuing professional development for learners in non-formal learning environments, such as staff and volunteers working in 4-H and other Extension and youth development areas is often identified as a critical programmatic component (Diem, 2009; Fox, Herbert, Martin, & Bairnsfather, 2009; Huebner, Walker, & McFarland, 2009; Schmitt-McQuitty, Smith, & Young, 2011). Due to recent budget cuts, professional development for students and staff in non-formal learning environments is often limited (Fox et al., 2009; Huebner et al., 2009). Moving toward online training is a way to address the increased need for training despite budget decreases (McCann, 2007; Kaslon, Lodl, & Greve, 2005; Senyurekli et al., 2006).

Developing an online learning community that also functions as virtual community of practice (Gannon-Leary & Fontainha, 2007; Lave & Wenger, 1991) is one approach to creating an online forum for ongoing professional development training in a non-formal learning environment. In such an environment, the participants share resources, experiences, problems, and solutions, which contributes to the development of knowledge within the
community. Some scholars, such as Kaslon, Lodl, and Greve (2005) have posited that offering professional development training in non-formal educational settings would have similar benefits as offering online training in academic settings. However, there seem to be few instances where professional development training is conducted as part of an ongoing virtual learning community and participants interact regularly in a non-formal learning environment.

**Background**

In order to address this gap regarding professional development training, this study examines a non-formal, virtual learning community that provides professional development through training interns to plan and implement youth development leadership activities. The online learning community is comprised of college interns who are part of Project YES. Project YES is a relatively new grant program that uses an online learning community with college interns from around the country. The online community provides ongoing training and a space for interns to collaborate on event planning and share their experiences with the team. Project YES interns learn professional development skills while working with youth between the ages of 6-18 who are members of military families being impacted by deployment. The college interns travel to military youth events in different states and implement interactive, hands-on activities focused on leadership, life skills, and Science, Technology, Engineering and Mathematics (STEM).

Project YES is facilitated by the North Carolina State 4-H Program with support from the General H. Hugh Shelton Leadership Center (eXtension Military Families, 2012). The
program has a vested interest in providing effective, ongoing professional development for its interns. The purpose of the grant is two-fold: it is a workforce development program for college interns who are interested in careers in Extension, Military Family Life Support Services, or non-profits; and it is a program to support military youth whose families are being impacted by deployment issues. The college interns are involved in ongoing professional development, and they practice their skills by coordinating and conducting youth development programs with military youth at military family events. Due to the geographic distribution of the interns, the training is delivered through a blended model. There is an initial face-to-face meeting followed by online professional development training, much of which occurs online. As the training coordinator, I am committed to creating an online learning community where interns can be involved in professional development as both participants and facilitators.

The first Project YES cohort of twelve interns was inducted in November 2010. The second cohort of eighteen interns began in May 2011 and ran through May 2012. Cohort two was the group associated with this study. The program is currently working with cohort three, which started in May 2012 and has twenty-four interns. Each cohort begins with an initial face-to-face training session that lasted from three to five days. The purpose of this training was to prepare the interns to plan and implement curriculum with military youth at pre, during, and post-deployment events. The curriculum activities focus primarily on leadership and life skills that will help military youth cope with issues associated with deployment. The activities also focus on how to apply the lessons in school settings and other situations in addition to deployment. (See Appendix A for a sample of one day’s activities that would be
implemented at an event.) The training also included logistical training of what is expected from a Project YES intern, such as travel procedures, budget information, professionalism, and technical equipment training, such as how to use their flipcams and portable projectors. After the initial training, ongoing training and interaction with staff and fellow interns is conducted in some face-to-face settings, but the majority of the training occurs in online settings.

After the initial training, the interns are typically sent to military youth events in two to four-person teams. The makeup of each team depends on how many military youth are projected to attend an event and the availability of the interns. Each event is different, but generally during the school year an event occurs from a Friday night through Sunday at lunch time. The interns arrive at the location Friday afternoon. Any activities Friday night are casual and short. Saturday morning the interns begin a full day of activities with the youth. The day usually runs from around 7:30 am-4:30 pm. The interns work with the youth while their parents are in military briefing sessions. On Sunday the interns work with the youth from 7:30 am – 11:30 am.

The team of interns for each event is chosen based primarily on availability and they are paired with other interns who just happen to be available during a specific time when an event will be held. The interns are not restricted to regional areas of the country, so they may travel anywhere in the United States to various events. The interns are expected to attend one weekend event per month. They may attend more if events are available, but attendance at multiple events is not required.
Although some groups of staff and interns meet occasionally at events, overall, the intern teams are rarely comprised of the same people, so face-to-face meetings between any particular interns or staff are fairly infrequent and are unpredictable. Consequently, the majority of ongoing training and interactions among the interns, and between the interns and the staff, have occurred in an online environment. I am engaged in this study because I am interested in connections between instructional technology, professional development, youth development curriculum, and civic engagement. My current position as the training and curriculum coordinator with Project YES allows me to develop online trainings and curriculum for college interns and military youth. My study will include analyzing the effectiveness of the online learning community created by the interns. I am very curious about ways to create online learning communities that successfully go beyond merely delivering content online. The study is not officially part of my job, but it will be beneficial in helping me better understand many factors of my job, and may assist in making improvements to the program. Both knowledge sharing and reflection are important activities to enhance the individual and collective progress of programs as Project YES; therefore, the study may also help other teachers and students engaged in similar non-formal, online learning environments.

Statement of Problem

A review of the literature revealed that research about online learning communities seems to have been conducted primarily within teacher education (Duncan-Howell, 2010; Yang & Liu, 2004) and healthcare education (Bryan, 2009; Reilly, 2009; Richards, 2008).
Some corporate fields, such as health-care organizations (Billings, & Kowalski, 2005), and technology-based organizations (Bouhnik, Giat, & Sanderovitch, 2009; Johnson & Senges, 2010), also discuss using online learning communities. However, few sources discussed whether and how other extension and youth development programs, similar to Project YES, incorporate online training and distance education. The majority of the materials found that related to this topic were from the *Journal of Extension* addressing the need for continuing professional development in general; and descriptions of specific technologies and technology integration methods being used in Extension contexts. Articles from other Extension journals, if they addressed the topic, usually focused on the use of technology in an academic course, as opposed to technology being used in training and professional development settings. Therefore, there seem to be few instances discussed in the literature where training is conducted as part of an ongoing online learning community and participants interact regularly in a non-formal learning environment like Project YES.

**Purpose of the Study**

This study used a case study approach (Stake, 1995) to explore an online learning community in a non-formal educational setting and the process participants use in order to share, create, and construct knowledge through their interactions in the online community. The study explored the experiences of Project YES interns as they interacted in an online community designed to help them gain further training while sharing lessons they learn from their experiences. The knowledge gained from this study has the potential to benefit other students and educators involved in online communities associated with non-formal
educational settings. The findings might help future participants and facilitators of online communities create more effective learning environments. The Project YES study collected data about experiences the YES interns had in their online learning community in order to analyze how the interns create and explore knowledge in an online learning community; and to analyze how technology contributes to or hinders creating, constructing, and sharing knowledge within the virtual learning community.

The purpose of the Project YES study parallels the purpose of case study and qualitative research overall. Case studies are generally presented as one of the common qualitative research methods (Creswell, 2007). Based on definitions from different researchers, characteristics of qualitative approaches include: knowledge claims shaped by constructivist viewpoints (Creswell, 2003); data gathered from real-life, natural setting (Bogden & Biklen, 1998; Yin, 2009); a design that is open-ended or exploratory in nature (Creswell, 2003; Yin 2009); and themes that emerge from data analysis (Creswell, 2003). Yin (2009) identifies “contributing to our knowledge of individual, group, organizations, social, political, and related phenomenon” as one purpose of case study research (p. 4). The Project YES study related to this purpose because it has the potential to contribute to the knowledge base for online learning communities, virtual non-formal educational setting, and online youth development communities. Creswell (2003) describes another purpose as “advanc[ing] a single phenomenon to study, recognizing that the study may evolve into an exploration of relationships or comparisons among ideas” (p. 88). The Project YES study began by examining the phenomenon of knowledge contribution, however, during data analysis the study expanded to include analysis of relationships. For example, it became
apparent that the knowledge contribution happened in part because of the personal relationships among the interns. Therefore it became important for the study to look at some aspects of the existing relationships and explore what factors of the relationships encouraged and supported knowledge contribution.

Bogdan and Bilken (1998) discuss other purposes of qualitative research that relate to case studies and Project YES. They state that one potential purpose is description. Description was relevant, because one objective of this study was to describe the process of knowledge contribution and the factors that contribute to and hinder it. Bogdan and Bilken discuss another purpose of qualitative research, which is to “better understand human behavior and experience. They seek to grasp the processes by which people construct meaning and to describe what those meanings are” (p. 38). The Project YES study also incorporated these purposes: the study is attempting to better understand the behavioral aspects of how the participants interact online as they work together and share their experiences.

**Research Questions**

This study focused on exploring how participants in an online learning community interacted with each other using technology to build and share knowledge as part of their ongoing professional development. The participants enhanced their skills while working with military youth. The overall research question for this study was: *To what extent do participants of an educational online learning community in a non-formal setting engage in sharing, constructing, and creating knowledge?*
Subquestions:
• What patterns of interaction emerge among the interns that foster knowledge sharing, construction, and creation?
• How do the technology tools facilitate the various modes of knowledge contribution?
• When does knowledge sharing, construction, and creation occur in the online setting?
• What impact does the knowledge sharing, construction, and creation process have on the professional development goals of the interns?

(See Appendix B for connections between the interview questions and the subquestions.)

Definition of Terms
Several terms about subtle differences in variations in online community and concepts of knowledge building were important to this study. It was important to consider the terms within the context of the scholarship and how they applied to the Project YES study. The terms included:

• Community of practice - Lave and Wenger (1991) defined community of practice as an “activity system about which participants share understandings concerning what they are doing and what that means in their lives and for their community” (p. 98).

• Continuing Professional Education - Continuing professional education has been difficult to define since it originated (Houle, 1980; Rampp & Guffey, 1998). Rampp and Guffey (1998) state that continuing education can be “what the beholder needs. More specifically it can be either a process or a program” (p. 11). This definition implies that the participant creates continuing education agenda for him/herself to
meet their own requirements.

- **Formal education** – Coombs (1973) defines formal education as “the hierarchically structured, chronologically graded educational system running from primary school through the university and including, in addition to general academic studies, a variety of specialized programs and institutions for full-time technical and professional training” (p. 11).

- **Informal Education** – Informal education occurs when an elder or a peer explains unplanned or unorganized activities to a participant (Kleis et al., 1973).

- **Knowledge construction** - Van Aalst (2009) defines knowledge construction as “the processes by which students solve problems and construct understanding of concepts, phenomena, and situations, considered within cognitive psychology,” (p. 261-262).

- **Knowledge creation** – Knowledge creation is defined as the process of developing the ideas needed to sustain innovation” (Van Aalst, 2009, p. 261-262).

- **Knowledge sharing** – Knowledge sharing is defined as the “transmission of knowledge between people” and notes that only information can be shared, and it only is knowledge if the sender or receiver understands it (Van Aalst, 2009, p. 260).

- **Non-formal Education** –Non-formal education is defined as: “Any intentional and systematic educational enterprise (usually outside of traditional schooling) in which content, media, time units, admission criteria, staff, facilities and other system components are selected and/or adapted for particular students, populations, or situations in order to maximize attainment of the learning mission and minimize maintenance constraints of the system” (Kleis et al., 1973, p. 6).
• **Social Constructionism** – Social Constructionism has similarities to a constructivist perspective; however, as Papert (1991) explains it adds a social dimension about the context where learning occurs.

• **Virtual Community of Practice** - Gannon-Leary and Fontainha (2007) define a Virtual Community of Practice (CoP) as a “network of individuals who share a domain of interest about which they communicate online” (p. 98). Chen, Chen, and Kinshuk (2009), define a virtual learning community as a cyberspace community driven by information technology where people from different geographic areas work to accomplish e-learning objectives.

• **Wiggio** – According to their website, Wiggio is designed to be a “free, online toolkit that makes it easy to work in groups” (Wiggio, 2012). Wiggio provides a platform for group tasks such as conference calls, to-do lists, event management, shared files, group polls, emails, texts, and voice messages.

**Theoretical Framework**

This study was guided by the concept of Social Constructionism. Constructionism has similarities to a constructivist perspective; however, as Papert (1991) explains in his argument that more effective learning occurs when learners are engaged it created a relevant product in a real-world setting, social constructionism adds a dimension about the context where learning occurs. Social Constructivist theory is based on the works of thinkers like John Dewey (1938), Jean Piaget (1978), and Lev Vygotsky (1978). In the application of constructivist theory, the student derives meaning from ideas by relating them to his or her
own prior knowledge and the environment where the idea will be used (von Glaserfeld, 1995). Piaget (1978) emphasized that learning occurs through actively constructing knowledge instead of passively receiving it. This concept is directly related to notions undergirding experiential learning and the learner’s development. Vygotsky (1978) posited that cognitive development does not occur when an individual learns to do something new. Instead, it occurs when someone can do something on their own that they have previously been doing with the support of someone else.

Elements of constructivism are evident throughout Project YES. For example, the learning model of the entire internship is based on experiential learning, which has connections to constructivism and Kolb’s Experiential Learning Cycle (Kolb, 1984). However, constructionism is more relevant to the Project YES virtual learning community because of its perspective that learning occurs within social interaction and is extremely effective when the learners are constructing an entity for the purpose of having others experience it (Papert 1991). The tenets of social constructionism that can be associated with Project YES are discussed in detail in chapter 2.

**Significance of the Study**

A literature review showed some research studies have been conducted about online learning communities in educational and corporate settings. In educational settings, several research studies have been conducted about online learning communities within teacher education (Duncan-Howell, 2010; Yang & Liu, 2004) and healthcare education (Bryan, 2009; Reilly, 2009; Richards, 2008). The use of online learning communities has also been
discussed in some corporate fields, such as health-care organizations (Billings, & Kowalski, 2005), and technology-based organizations (Bouhnik, Giat & Sanderovitch, 2009; Johnson & Senges, 2010). However, there seem to be few instances discussed in the literature where training is conducted as part of an ongoing online learning community and participants interact regularly in a non-formal learning environment like Project YES. Additional research is needed to analyze the similarities and differences between formal and non-formal online learning communities because expanding into a more global setting is one of the trends that some non-formal learning practitioners have identified as an important area for the field in the 21st century (Brace-Govan, & Gabbott, 2004).
CHAPTER 2: LITERATURE REVIEW

In the Project YES online learning community, the interns work on professional development goals and interact with each other in creating and sharing knowledge about working with military youth. Some interactions occur in face-to-face settings at training sessions, or military events; however, the majority of the interactions occur in an online environment. The Project Yes online community integrates a variety of technologies including: Skype, email, a social networking platform, Elluminate, and Dropbox. The purpose of the online community is to provide space for interns to: discuss their experiences and share tips and strategies with each other; present and track logistical information; participate in additional training; and enhance their professional development skills.

This case study used social constructionism (Papert, 1991; Lock and Strong, 2010) as the theoretical framework to analyze how interns interacted with each other and the technology regarding the purposes of their online learning community. Additional areas of literature that were significant to the study are: Online communities (learning communities and virtual communities of practice); knowledge sharing, construction, and creation; and professional development in a non-formal learning environment.

The overall research question for this study is: To what extent do participants of an educational online learning community in a non-formal setting engage in sharing, constructing, and creating knowledge?

Subquestions:
- What patterns of interaction emerge among the interns that foster knowledge sharing, construction, and creation?
• How do the technology tools facilitate the various modes of knowledge contribution?
• When does knowledge sharing, construction, and creation occur in the online setting?
• What impact does the knowledge sharing, construction, and creation process have on the professional development goals of the interns?

The study explored elements of these themes and how they connected to and influenced the actions and impacts of the online learning community. To keep an online learning community vibrant and evolving, it is important to examine how people interact within a community and how the community changes over time (Laghos, 2010). The Project YES online community functions as a community of practice and learning in face-to-face and virtual capacities as they plan and implement leadership development, life skills, and Science, Technology, Engineering, and Mathematics (STEM) activities with military youth.

Project YES is a relatively new grant program that trains college students to facilitate activities designed to help military youth deal with issues associated with their family member being deployed. Studies conducted with military children whose parents are deployed “have indicated that deployment is associated with higher levels of internalizing behaviors (e.g., feeling sad, fearful, or overcontrolled)” and that deployment may negatively impact behavior and mental health outcomes in children and adolescents (Chandra, A., Burns, R.M., Tanielian, T, Jaycox, L.H., & Scott, M.M., 2008, p. 13). The mission of Project YES is to provide support for military youth who are being impacted by deployment, and it also focuses on providing professional development for the interns. The interns work with the Project YES staff individually, and in teams, to identify and develop areas of professional development related to their work with Project YES and their future career goals. They also
work with each other in teams to plan the youth development events and to conduct activities with the youth. In addition to helping plan curriculum necessary for conducting youth events, the team interactions also support the interns in learning leadership skills, such as situational leadership styles, conflict management, and project management skills.

Much of their interaction occurs online since the interns are geographically dispersed throughout the United States. In looking at blended groups that combine online and face-to-face elements, Arnold and Paulus (2010) questioned “[w]hat happens when a group of learners has two venues for community building available…? Does this create two separate communities or do they overlap? Which tools do they choose to use and for which aspects of community building?” (p. 195). These questions were relevant for the Project YES case study in examining the various dimensions of the community, and while the primary focus of the study was centered on dimensions of the virtual community, the research addressed how the face-to-face dimension impacted the online interactions.

**Theoretical Framework**

In the Project YES community, the interns are constructing an experience for the military youth through working together in teams to plan and facilitate leadership development activities onsite at a military youth event. (See Appendix A for a sample of activities that the interns implement with the youth.) The interns create knowledge for each other and the military youth through their interactions in the learning community; therefore, the aspect of Social Constructionism that learning occurs within social interaction is extremely relevant. Papert (1991) posits that Constructionism:
...shares constructivism’s connotation of learning as ‘building knowledge structures’ irrespective of the circumstances of the learning” then adds the ideas that this happens especially felicitously in a context where the learner is consciously engaged in constructing a public entity, whether it’s a sand castle on the beach or a theory of the universe (p. 1).

The “public entity” that Project YES interns are constructing is a body of knowledge and experiences that can support them and enhance their impact as they work with military youth if they share the knowledge and create it together.

Papert (1991) claimed even the definition of constructionism must be constructed conceptually since it may be different for each particular environment. Lock and Strong (2010) stated, “…there is no one school of social constructionism….There are, though, some expansive tenets that hold it together” (p. 6). They provide the following five tenets to describe social constructionism:

• It is concerned with meaning and understanding as the central feature of human activities.

• The view that meaning and understanding have their beginnings in social interaction, in shared agreements as to what these symbolic forms are to be taken to be.

• Ways of meaning-making, being inherently embedded in socio-cultural processes, are specific to particular times and places. Thus the meaning of particular events, and our ways of understanding them, vary over different situations.

• People are self-defining and socially constructed participants in their shared life.

There are no pre-defined entities within them that objective methods can seek to
delineate but, rather, our ways of making sense to each other are constructed to yield quite different ways of being selves.

- The adoption of a critical perspective to the topics at hand, that is, a concern with revealing the operations of the social world, and the political apportioning of power that is often accomplished unawares, so as to change these operations and replace them with something that is more just.

(p. 6-9).

Aspects of Lock and Strong’s tenets were incorporated into the Project YES study. The principles in the tenets are a part of how the interns interact and define themselves and each other are important to how they work to create youth develop programs that will help mitigate the impacts of deployments on military youth. The purpose of the work to offset negative impacts of deployment links to the fifth tenet regarding social justice. While it was not the focus of the study, [art of the evaluation for Project YES could have included analyzing whether indications of a social justice awareness of the program and their work is overtly present in the community. While this is not a primary concern of the study, it is another example of how a social constructionism perspective is relevant to Project YES.

Perhaps the most significant relevance of social constructionism to Project YES is that constructionism does not have a prescribed format and that leaves room for communities and learners to evolve in the ways they need. Hibberd (2005) notes that “[f]or many, social constructionism enables an unconstrained and unlimited outlook …nothing fixed or inevitable about it. Social groups can, then, choose to replace old conventions, theories, ideologies, practices and bodies of knowledge with new ones” (p. 3). The Project YES virtual
community will need that kind of unconstrained attitude in order to adapt, sometimes quickly, based on the changing needs of both the interns and the military youth. It is important that interns have the flexibility to refresh and revise curriculums and approaches as they learn more about the military youth and their needs. The same flexibility will also be important as the interns become more deeply involved in their professional development and as a result, have to make changes to the knowledge held by the community as well as processes they use to interact with each other.

Review of Literature

*Online communities.*

Several scholars discuss the differences between learning communities and communities of practice (Ardichvili, 2008; Wenger, 1998). In a learning community, participants are intentionally focused on learning information or skills and may engage in sharing that information (Wenger, 2006). In a community of practice, learning may be intentional, or it may be a byproduct of the community, but the community engages in activities that support their practice (Wenger, 1998). Jean Lave and Etinne Wenger were the first to use the term “community of practice” in their 1991 work “*Situated Learning: Legitimate Peripheral Participation*” (Hildreth & Kimble, 2004). Wenger (2006) characterizes a community of practice as having three elements: 1) a shared domain of interest, 2) participants who interact and learn together, and 3) participants who are practitioners and engage in production of elements (experiences, tips, resources, etc) that other community members can use in their practice.
The Project YES online community is a learning community and a community of practice. Learning within the community is intentional in that experiences and activities are designed to facilitate the interns learning about themselves, about interacting with each other, youth, and people in professional settings. They are also sharing that knowledge with each other as they engage in professional development activities. They develop knowledge that informs their own individual practice and that of other interns. Wenger (2006) defines communities of practice as “groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly. The Project YES interns fit this definition in that they share a passion for working in areas of youth development, and a larger responsibility of being an intern is to continually improve their facilitation and curriculum implementation skills with the youth.

*Virtual communities of practice.*

Since most of their interaction occurs online, the Project Yes interns are members of a virtual community of practice. Chen, Chen, and Kinshuk (2009), define a virtual learning community as “the information technology based cyberspace in which individuals and groups of geographically dispersed learners accomplish their e-learning goals” (p. 136). Just as with face-to-face communities of practice, virtual communities of practice share the same distinction of building knowledge in additional to learning and sharing. Wenger (2001) states:

Every group that shares interest on a website is called a community today, but communities of practice are a specific kind of community. They are focused on a domain of knowledge and over time accumulate expertise in this domain. They
develop their shared practice by interacting around problems, solutions, and insights, and building a common store of knowledge (para 2).

Chiu et al. (2006) define a professional virtual community as “an online social network in which people with common interests, goals, or practices interact to share information and knowledge, and engage in social interaction” (p. 1873). The social interaction is facilitated in part by the technology, which impacts the interaction. Wenger, White, and Smith (2009) examine how technology and people’s interaction with it has changed how communities engage with each other. They discuss how technology is currently “incorporated more deeply and broadly into the regular life of communities,” and “[t]he boundaries between tool selection, configuration, facilitation, and design are increasingly blurred (p. xii). They also examine how communities use tools in new ways based upon their purposes and the tasks they want to accomplish. Arnold and Paulus (2010) also discuss the phenomenon of communities using tools in different ways, which impacts the communities’ interactions in that “[p]eople often appropriate technology, reinventing it for their own uses – uses which may different from the designers intentions” (p. 194). In the first year, Project YES interns have used technology differently than the training and curriculum coordinator had originally intended and some of the changes have improved the community and their online interactions. It was important to evaluate how the interns used technology in the second year and how their use of technology impacted their participation in the community.

In addition to looking at how people participate in online communities, scholars also look at why they participate. For example, one reason people participate is because they are seeking to attain goals (Chou, 2010). This reason related to the interns and impacted why
they initially participated. They wanted to be prepared for their events and they participated in the online community in order to do so. However, this reason for participating may only have led them to do the required activities. The sense of responsibility to the team and to each other individually led to differing levels of participation. Chiu, Want, Shih, and Fan (2011) relate this sense of responsibility to social exchange theory and claims “when an individual participates in a virtual community, a psychological contract is being made with them that the other members will fairly discharge their obligations to reciprocate” but that if the participants perceive the contract to have been violated, they experience feelings of dissatisfaction (p. 139). This has been relevant to the Project YES interns in the first year when interns have not responded to team forums and have missed Skype calls. The study for year two analyzed these perceptions of responsibility that the interns felt towards each other and how it impacted the teams when others did not uphold those expectations. This was significant because satisfaction with the community increased the likelihood that participants engaged in positive interactions within the community, such as responding to others, or voluntarily providing useful information (Rusbult & Buunk, 1993).

Given that not all interns participated at the required level, in order for them to fully engage in the community, such as sharing ideas with people who are not on their team to share ideas and experiences, they may need additional incentives to participate at a deeper lever. Chiu, Want, Shih, and Fan examine how enjoyment or playfulness derived from participating and knowledge sharing is stimulus for deeper, more involved participation in a community (p. 135). Based on shared anecdotes, some of the interns seem to have reached this level in their communications with each other that occur outside of the community.
spaces visible to all participants. This sense of enjoyment does not seem to have evolved for all of the interns. It was important to include in the evaluation why the interns participated and interacted the way they did because higher levels of interaction would be beneficial to the online community.

Another characteristic that impacts participation in an online community is how they integrate new members (Ardichvili et al., 2006). In their theory of legitimate peripheral participation, Lave and Wenger (1991) describe the expectation that new members of the community learn from their social interactions with the experienced members and then from their interactions with each other and then how new members begin to contribute to the community. In an online learning community, newcomers may engage in what Arnold and Paulus term “pedagogical lurking.” This is invisible interaction, such as participants reading forum postings but not replying and looking at work posted by other participants but not contributing any of their own. Some studies have examined ways to track lurking behavior and whether it contributes to participants’ learning, or if it has a negative impact on community building (Beaudoin, 2002; Dennen, 2007). In their study where they analyzed students’ social network patterns when Ning was integrated into a blended course, Arnold and Paulus claimed that instead of undermining community building, lurking helps foster community building as it shows interest by the participants that may be expressed in other ways even if they do not contribute to some of the areas where they are lurking. Since the study was conducted in the second year of Project YES and some new interns were joining the group, it was important to evaluate how the new members were integrated based on their own actions and the actions of the returning members.
Scholars discuss additional characteristics of communities of practice that apply to both face-to-face and online communities. Wenger (1998) describes communities of practice as being “[p]laces of identity to the extent that they make trajectories possible – that is, to the extent they offer a past and a future that can be experiences as a personal trajectory” (p. 215). This idea of a developmental trajectory is relevant to the professional development aspects of Project YES. The interns should be able to track their progress as they work on developing and enhancing their leadership skills. The evaluation of Project YES looked for instances where the interns documented or discussed their progression and how it was or was not facilitated by the technology.

**Best practices.**

Some of the best practices for learning communities and communities of practice identified by scholars and practitioners include:

- *Conducting face-to-face meetings if possible before embarking on a virtual community of practice* (Ardichvili, 2008). Project YES currently does this through the face-to-face orientation at the beginning of each year. Interns also get to see some of the peers at the military events. However, it would be beneficial if a mid-year face-to-face meeting could be arranged.

- *Teaching learners how to interact online.* The community will not just happen by itself, so learners must be taught how to form online learning communities (Crozier, Orey, & Koenecke, 2003). In year one, the Project YES interns did not fully utilize the learning community, so more direction on how to interact within the community would be beneficial.
• *Promoting personal knowledge-based trust and institution-based trust in order to promote participate in virtual communities* (Ardichvili, 2008). Addressing knowledge-based trust in particular will be important because several of the interns during year one expressed discomfort and uncertainty regarding their competence when they were asked to take on responsibility individually.

• *Providing spaces for optional, informal learning* (Clarke, 2009). Based on shared stories, some informal learning occurred on Facebook outside of the official community space. Including a way to capture how the interns interact outside the community will be important to the evaluation, but creating an informal space within the community may also be important.

• *Integrating the functions and tools of the online community with how the participants already use technology in their lives* (Clarke, 2009). The most significant area for this is the interns’ use of Facebook. Project YES should integrate a formal use of Facebook to promote community building.

• *Creating and maintaining core set of members* (Wasko and Faraj, 2005). Project YES is attempting to do this by allowing participants to return for consecutive years and by encouraging returnees to volunteer for additional leadership roles. It will be important to evaluate the differences in participation between the newcomers and the returnees and whether differences in roles have an impact.

The study of Project YES looked at these elements in connection with the Project YES virtual community.
**Challenges.**

Several scholars noted challenges that may impact projects, such as Project YES and should be considered in the course of the study. The challenges include:

- Participants often prefer face-to-face meetings for group projects. In their study, Arnold and Paulus (2010) found that students viewed the online chat feature as inauthentic and that they preferred meeting in-person. In Project YES, it is not possible for all the interns to hold face-to-face meetings when they are planning their events because of their geographic locations. However, the study examined whether there was a preferred technology for this type of planning meeting. It was also important to determine whether interns who live in close geographic proximity choose to meet face-to-face.

- Creating an effective community of practice takes time and sustained interaction (Wenger, 2006). The study examined how much time the interns spent and categorized intensity levels of interaction based on the patterns the interns follow.

- Participants tend to interact only enough to complete the required tasks (Arnold & Paulus, 2010). In their study of student interactions on their class Ning, Arnold and Paulus found that students made a minimal amount of forum posts and that they tended to respond when the instructors gave structured tasks. The students also only posted to the class blog for required assignments. During the first year of Project YES, interns limiting interactions to required tasks has been an issue. The study looked at whether the changes made to address some of the concerns increased participation during the second year outside of required activities.
Adapting when the technology does not work (Arnold & Paulus, 2010). This has been a major challenge for Project YES during the first year due to issues with the social networking platform the community was using. The study looked at whether the technologies in year two decreased the amount of adaptation due to technical issues. It also looked at how the interns adapted when technology issues arose.

Overall, the purpose of incorporating best practices and addressing challenges is to facilitate the efforts of the interns as they share, construct, and create knowledge in order to improve the practice of working with military youth and enhancing the professional development of the interns. In this type of “knowledge-creation model students contribute ideas, on which the community works and which thus become its “intellectual artifacts” (Van Aalst, 2009). Although the artifacts become part of the community’s shared repository of knowledge, Wenger (1998) implies that the participants retain ownership over their own ideas and the community’s response to their ideas can impact what type of identity individual participants have within the community. The connections between the constructs of ideas and identity will be important during the study’s evaluation of the knowledge contribution processes the interns use within the community.

Professional Development in a Non-formal Learning Environment

Continuing professional development for staff and volunteers working in 4-H and other Extension and youth development areas is often identified as a critical programmatic component (Diem, 2009; Fox, Herbert, Martin, & Bairnsfather, 2009; Huebner, Walker, &
McFarland, 2009; Schmitt-McQuitty, Smith, & Young, 2011). However, in many instances the training is lacking in various ways, including being limited to initial skill development without providing an ongoing component (Fox et al., 2009; Huebner et al., 2009). According to Borden and Perkins (2006), challenges associated with such training can result in a system where “community youth development professionals are often ill-prepared to meet the growing needs of today’s young people and have to learn on the job” (p. 106). They noted that one challenge was a lack of standards for consistent training across the field, and issued a call to action for the “professionalization of the youth development field” to address the issue.

Another challenge referenced by several articles is impacts on training due to budget-related aspects associated with budget cuts and changes in fiscal accountability (Borden & Perkins, 2006; McCann, 2007; Radhakrishna, 2001; Senyurekli, Dworkin, & Dickinson, 2006). Radhakrishna (2001) lists budget reductions as one of the issues that has strongly affected roles and responsibilities of Extension specialists. Budget decreases can lead to a reduction in staff and create a situation where the remaining staff members are then required to do more work. This could lead to a need for additional training, often at a time when training budgets have been cut as well. Senyurekli, Dworkin, and Dickinson (2006) note “budget decreases can mean limited funds are available for Extension educators to participate in face-to-face training (p. 2). Responsibilities of staff members also shift as funding sources change. Borden and Perkins (2006) discuss how “as public investments in youth development programs continue, the preparation and ongoing development of adults who work with young people in community-based program has increased in importance within the
youth development field….Organizations once labeled “fun and recreation” are now embracing larger missions and experiencing greater public accountability, thus placing greater demands on staff” (p. 103). This can type of shift in mission, responsibilities, and performance accountability to funders can result in a need for additional professional development.

**Online professional development.**

Ongoing professional development is a need for learners in non-formal learning environments, such as where students and staff are being trained to work with youth leadership programs, like Project YES (Diem, 2009; Fox, Herbert, Martin & Bairnsfather, 2009; Huebner, Walker, & McFarland, 2009). Only a few articles were found that dealt with this topic. Most of the articles were from the *Journal of Extension* and they addressed the need for continuing professional development in general; and included some descriptions of specific technologies and technology integration methods being used in Extension contexts. Several authors suggest moving toward online training as a way to address the increased need for training and budget decreases (McCann, 2007; Kaslon, Lodl, & Greve, 2005; Senyurekli et al., 2006). Based on a study analyzing perceptions of Extension specialists, McCann (2007) stated, “Indeed, with recent budget cuts, many respondents believed that a highly interactive online environment might be a fiscally beneficial option to deliver necessary training within the Extension Service” (p. 4). Online training could reduce the need for travel expenses, facilities, and expenses associated with staff time, which could help offset budget decreases.
In addition to financial benefits, authors also discussed performance and convenience benefits of providing online training. Kaslon, Lodl, and Greve (2005) posit that benefits related to online education in academic settings, such as providing access to learning during peak time, allowing individuals to work at their own pace, and to have more access to information would also be relevant to online training offered to Extension and youth development volunteers and staff. Another benefit is that online delivery of coursework for youth development workers would be beneficial (Diem, 2009). Diem (2009) conducted a nationwide assessment with 4-H program leaders and other youth development leaders to explore how to better improve youth development program training offered by a university. Eighty-eight percent of 4-H program leaders and seventy-one percent of leaders of other youth development organizations surveyed stated that online delivery of degree course work would be “very beneficial” or “beneficial.” Diem focuses on benefits of youth development workers having a formal youth development leadership degree. Some benefits are that it would decrease some of the need for organizations to offer so much initial training, and provide a more focused approach to understanding the profession and enhance effectiveness of meeting the developmental needs of youth.

Diem’s study was about perceptions people held toward using technology but not about evaluating the use of technology. The majority of the other articles either discussed possible implications of using technology in training, or described using the technology. Although there was a limited number of articles that evaluated online training with youth development, the articles reviewed included useful information that addressed: 1) general and technological methods/strategies to implementing online training, b) specific technologies
used in online training or with youth programming, and c) examples of online training. The majority of the articles also made connections to generalized processes, benefits, and challenges associated with staff development that may or may not be relevant specifically to online training, but may impact how the technology would be integrated. The relevant observations about more general aspects of training are included in the following sections whenever it is appropriate.

**General and technological methods/strategies.**

The majority of the articles that focus on online training methods and strategies identify use of technology that could fit within categories of *formal education* where participants are working towards completing formal classes or degrees; *resources* where an organization provides an online repository of information, or *practical skills training* where participants are working toward learning or enhancing skills individually or as part of a group, but not as part of a formal academic setting. Borden and Perkins (2006) conducted an internet search that fit within the first category of more formal training. They identified organizations providing educational opportunities for youth development workers. They classified the organizations into three categories: direct service organizations who provide training for their own employees; intermediary organizations that provide training for people from different types of organizations; and colleges and universities that provide training linked to courses, certificates, and degree programs. Regardless of which categories they fell into, many of the authors suggested training be linked with a competency-based approach and include a multi-disciplinary focus in order to address a wide range of practitioners and program recipients.
**Competency-based approaches.**

Some of the calls for action to increase training, especially those calling for the professionalization of the field suggested that training be based on competencies. In his discussion of Youth Development Leadership degrees and coursework offered by Clemson University for youth development professionals, Diem (2009) mentioned positive impacts of linking the training to 4-H’s Professional Research, Knowledge, and Competencies (PRKC) model. He stated, “the PRKC model provides a good basis for considering the most valuable competencies need by youth development professionals according to leaders of prominent nationwide youth development organizations” (p. 2). Another attempt at standardization in response to lack of training and minimal educational opportunities for youth development professionals was the Build Exemplary Systems for Training Youth Workers (BEST) Initiative, which was started in 1996. The purpose of the BEST Initiative is to help “local communities establish professional development systems for their youth workers, so that youth workers are trained for their profession and connected to an array of programs, policies, and resources that can help institutionalize the youth development approach in their organizations and communities” (Center for Youth Development and Policy Research, 2002). Program information about the BEST Initiative is now located on the Youth Work Central website.

**Competency-based, blended model approach.**

Barker, Grandgenett, and Nugent (2009) describe a new competency-based model that provides ongoing training for volunteers to learn strategies needed to work with the 4-H
science, engineering, and technology (SET) mission. They stress that developing competencies is important in developing the needed skills, attitudes, and knowledge to work with the SET curriculum. The connection to competencies is relevant to general training regardless of delivery format. However, the authors present the 4-H SET Volunteer Competences Training Module as a blended model approach that includes both face-to-face and online training. The SET volunteer competencies are the foundation for the training and are delivered/obtained through face-to-face training as well as online modules, self-directed learning, and monthly web meetings. The face-to-face training is short; online modules are accessible at any time; and web meetings occur synchronously through Adobe Connect. This model is fairly similar to that being developed and used with Project YES except the initial face-to-face training is more involved. The authors do not provide any evaluation of the blended, competency-training module but note that it is being tested and that it may have implications for blended models in the future.

**Multidisciplinary approach.**

Another approach that multiple authors described is a multidisciplinary or multifaceted approach. Borden & Perkins (2006) believe this is necessary because “In order for these programs to meet the complex and varied needs of today’s youth, a range of educated and experienced community youth development professionals and adequately trained volunteers are needed” (p. 103). In their study, Borden and Perkins indicated their findings pointed “to a need for a comprehensive, multidimensional educational system to provide community youth development professionals with the necessary knowledge and skills essential to successfully meet the challenges they encounter in their daily work” (p. 155). In
his study on participants’ perceptions, Diem found that sixty-six percent of all participants indicated that a multi-disciplinary approach would be better than single-disciplinary approaches. The multidisciplinary approach can be implement regardless of the delivery format, whether it is face-to-face or online.

*Virtual communities of practice approach.*

A virtual community of practice approach is one that is directly connected to using an online delivery format. Sobrero and Craycraft (2008) describe how the recent eXtension initiative fosters an online community of practice by allowing Extension agents and clientele to share knowledge and work together. They explain that the eXtension communities are still evolving and have the possibility to enhance professional development. They note that communities of practice work best if they include defined leadership, defined member expectations, and deadline. Harder and Lindner (2008), in their article, *County extension agents’ perceptions of eXtension*, describe eXtension as an internet delivery strategy and they portray it as primarily being useful for clients but still a resource for Extension agents. The authors surveyed agents to determine their perceptions of eXtension and agents reported positive perceptions of eXtension’s relative advantage, compatibility, and complexity, but they did not perceive eXtension to make their jobs easier by saving them time and effort. This appears to be a similar assessment to Sobrero and Craycroft’s acknowledgement of the need to conduct research on the effectiveness of the eXtension initiative and determine whether it enhances teaching and learning in the community.
**Integration technology strategy.**

Kotrlik, Redmann, and Douglas (2003) present a strategy that could be useful regardless of which technological strategy trainers decided to use. In their article, *Technology Integration by Agriscience Teachers in the Teaching/Learning Process*, Kotrlik et al. discuss how to integrate technology in a formal education setting to train agriscience teachers; however, the strategy could be used in any of the three categories described by Borden and Perkins. Kotrlik et al. suggest implementing technology in training in four separate, stand-alone phases: Exploration, Experimentation, Adoption, and Advanced Integration. The authors suggest that having participants go through these four models could be useful in addressing concerns participants or trainers may have about how the technology fits into the training and how they will learn the new technology.

**Specific technologies.**

Using the four phases presented by Kotrlik et al. could also be useful when implementing specific technologies in the training process. Murphrey and Coppernoll (2006) and Coppernoll, Jahedkar, and Murphrey (2006) discuss how to incorporate online conferencing systems into training. The articles list some of the benefits mentioned earlier, such as reducing travel time and cost and caution that implement conferencing systems must be doing intentionally and with directive guidance for the participants. Murphrey and Coppernoll offer some suggestions that may be applicable to any type of technology being introduced. Their ideas include: starting with a small group and then having them be advocates for the technology; introduce the technology in real events; conduct training seminars and individual coaching sessions; and model the technology. Coppernoll, Jahedkar,
and Murphrey caution that the conferencing technology does not replicate a face-to-face setting, so adjustments have to be made in expectations and implementation. They reiterate the need to plan how the technology will be used and stress the importance of instructional design and effective facilitation, which are also points that relate to use of any technology in online training.

Brunner, Kirschmann, Pumphrey, and Vu (2009) discuss integrating Web 2.0 into youth programming to promote connections between individuals. They state the biggest challenge with incorporating Web 2.0 tools is the staff’s “lack of training or knowledge about how to use it within youth development programs” (p. 138). They interviewed staff members and discovered some additional recurring challenges, such as not having enough time during programming to effectively use the technology, having limited access to equipment, and not having access to technical support staff. They recommend that with training staff can use Web 2.0 to enhance connections between themselves, youth, and other programs. Ashton, Galloway, and Bourdeau (2010) discuss implications of using blogs, a specific Web 2.0 tool. This is a short article that provides an example of how blogs were used with youth in a camp setting to capture and reflect on the camp activities and as a way to keep in touch with their families. The article also describes how a training blog was used to train high school students who were going to serve as camp counselors. The trainers created blog sessions and students were expected to complete them before the face-to-face trainings. The blogs related to scenarios that may occur at camp and students blogged on how they would respond and commented on each other’s blogs. The trainers did collect data on students’ reactions to the blogs. Seventy percent thought it was useful to share ideas and eighty-four percent said
reading other people’s posts helped them think about how they would respond. However, seventy-six percent stated they did not think it was a good way to work together, and there was some indication that students may have felt blogs were outdated and instead preferred more instantaneous ways of communicating electronically.

**Knowledge Sharing, Construction, and Creation**

The concepts of knowledge creation and sharing are important to the Project YES community because the internship was designed for participants to engage in an activity, learn from it through reflection, and then implement the lessons they learned during the next activity. This process follows the phases of Kolb’s Experiential Learning Model (Figure 1),

![Kolb's Learning Cycle](image)

**Figure 1: Kolb's Learning Cycle**

which was founded in experiential learning theory from a constructivist perspective (Kolb, 1984). Kolb defined experiential learning as “the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience” (p. 41).

In this model, learners can enter the cycle at any point and continue through the cycle multiple times. In one example for Project YES interns, the concrete experience would be the
youth development events with military youth. Reflective observation occurs during the
event, as interns are trained to be reflective in action, and after the event. Abstract
conceptualization occurs when interns create general guidelines for improvement based on
what occurred and their subsequent reflection. Then the interns engage in active
experimentation when they apply what they have learned in another setting. This process is
one way the interns engage in knowledge-creation.

**Modes of knowledge contribution.**

The Project YES case study looked at how the interns contributed to the community
through sharing, constructing, and creating knowledge. While some scholars and
practitioners may use the words interchangeably, there are theoretical distinctions between
the three modes, which Van Aalst (2009) identifies as:

- **knowledge sharing** – transmission theory of communication
- **knowledge construction** – cognitive psychology (constructivism)
- **knowledge creation** – interactive learning mediated by shared objects.

He defines *knowledge sharing* as the “transmission of knowledge between people” and notes
that only information can be shared, and it only is knowledge if the sender or receiver
understands it (p. 260). He notes that usually knowledge sharing does not occur naturally
unless it benefits people, and consequently it is important to cultivate knowledge sharing
processes. Van Aalst defines *knowledge construction* as “the processes by which students
solve problems and construct understanding of concepts, phenomena, and situations,
considered within cognitive psychology,” and *knowledge creation* as the process of
developing the ideas needed to sustain innovation” (p. 261-262). Communities can use
different modes throughout their interactions. Part of the Project YES study will examine which modes the interns use and whether there is one mode that is used more consistently than the others. This type of evaluation is important because a community “needs to be able to identify gaps in its collective knowledge, map out ways to fill those gaps, design and manage inquiries, manage social processes, and evaluate progress” (Van Aalst, 2009, p. 263). Understanding what modes of knowledge discourse a community uses can help determine how to fill in the gaps. Van Aalst work on knowledge discourse has its roots in the Knowledge Building Theory of Carl Bereiter and Marlene Scardamalia.

**Best practices and challenges of knowledge contribution.**

Several best practices and challenges related to knowledge building within a community were important to the Project YES study. The study evaluated whether the Project YES virtual community contained relevant characteristics and utilized best practices; how well they were implemented and their impact; as well as what challenges arose and how they are addressed. One strategy that Van Aalst stresses is the importance of supporting discourse in knowledge creation, which he says is required “to determine the limits of knowledge in the community, set goals, investigate problems, promote the impact of new ideas, and evaluate whether the state of knowledge in the community is advancing” (p. 260). He identifies the benefits of discourse as helping to determine priorities and goals, deepening inquiry, supporting existing ideas, and helping newcomers integrate into the community.

Sippings (2007) discusses cultivating an environment of knowledge appreciation within the community. One strategy he suggests is mapping information and knowledge
assets that exist within the community. This would be useful to do this with YES interns. Some interns have done it informally as they have discovered interns who have different skills. For example, interns find out in various ways about interns who have skills with computers, or with adapting lessons for younger children. It would be beneficial to do this asset mapping in a more formal way as many interns have expertise in areas that would support the interactions with military youth. Sippings also mentioned that some participants might be willing to share personal interests, such as hobbies, as a way of knowledge sharing for community building. While this could be beneficial, it may also be a distraction. The study on Project YES examined when this type of knowledge was shared and the resulting perceptions and impacts.

Another successful approach mentioned by several scholars is finding ways to motivate sharing (Hew & Hara, 2007; Hou, Sung, & Chang, 2009; Sippings, 2007). Hew and Hara state, “motivators for sharing knowledge in online environments may be generally categorized into six types: reciprocity, personal gain, altruism, commitment to the group, ease of technology use, and external goals” (p. 2311). With the Project YES study, it was useful to determine how the interns viewed their participation in relation to these motivators because understanding why they are contributing can help shape activities designed to encourage them to participate in the knowledge building aspects of the community.

Some of the main challenges to knowledge sharing are associated with the difficulty in getting people to share (Ardichvili, 2008; Chiu, Wang, Shish, and Fan, 2011; Chou, 2010; Hew & Hara, 2007). Ardichvili (2008) lists some potential barriers to knowledge-sharing, including, fears of criticism and misleading the community, not understand effective or
appropriate ways to share. He believes that some reasons people do not share are because they may not understand how it is important to them and the community, or do not know the best ways of sharing knowledge. Some scholars mention troublesome technology as a barrier. Chen, Chen, and Kinshuk (2009) cite poor quality of community websites, and some participants’ lack of capability in using community websites as challenges. Hew and Hara also cite lack of familiarity and a lack of access to technology as potential problems.

Evaluating the role of technology will be part of the Project YES study. During the first year of the program there were several problems with technology that impacted the interactions of the community. The social networking system had numerous technical glitches and some of the interns were confused about using technical tools such as wikis and blogs. In spite of the challenges, the technology was fairly useful and helped support the interns in sharing knowledge gained from their experiences.

**Summary**

The Project YES case study focused primarily on how knowledge building and professional development occurred within the virtual community of practice. Since all of the themes, online communities, professional development, knowledge sharing, construction, and creation, and social construction have related constructs, focusing the study on those areas of convergence may yield rich data for research. Exploring the overlaps between the themes, was also beneficial for the learning community as analyzing how a social constructionist approach was evident as interns participated in the online community to build,
share, and create knowledge may have the potential to lead to a richer, learner-generated evolution of the learning community.
CHAPTER 3: RESEARCH DESIGN and METHODS

Online learning communities provide a platform for professional development of participants in a non-formal educational setting through individual interactions and knowledge contribution. The purpose of the Project YES case study was to explore an online learning community in a non-formal educational setting and the process participants used in order to create and explore knowledge through their interactions in the online community. The following research questions frame the exploratory case study of the Project YES online learning community: *To what extent do participants of an educational online learning community in a non-formal setting engage in sharing, constructing, and creating knowledge?*

*Subquestions:*
- What patterns of interaction emerge among the interns that foster knowledge sharing, construction, and creation?
- How do the technology tools facilitate the various modes of knowledge contribution?
- When does knowledge sharing, construction, and creation occur in the online setting?
- What impact does the knowledge sharing, construction, and creation process have on the professional development goals of the interns?

**Rationale for Qualitative Research**

This study was conducted as a case study because it was based on a “bounded system” of the Project YES interns’ online learning community (Creswell, 2007, p. 73). The study explored the experiences of Project YES interns as they interacted in an online community designed to help them gain further training while sharing lessons they learn from
their experiences. The case study was framed by the research question: *To what extent do participants of an educational online learning community in a non-formal setting engage in sharing, constructing, and creating knowledge?*

Case studies are one of the more frequently used qualitative research methods (Creswell, 2007). Case studies are generally considered to have the following qualitative characteristics: an open-ended or exploratory design (Creswell, 2003; Yin 2009); data gathered from real-life, natural setting (Bogden & Biklen, 1998; Yin, 2009); knowledge claims shaped by constructivist viewpoints (Creswell, 2003); and themes that emerge from data analysis (Creswell, 2003). Thomas (2003) provides a concise description of qualitative studies as those that “involve a researcher describing kinds of characteristics of people and events without comparing events in terms of measurements or amounts” (p. 1). He compares that to quantitative methods, which he describes as “focus[ing] attention on measurements and amounts (more and less, larger and smaller, often and seldom, similar and different) of the characteristics displayed by the people and events that the researcher studies (p.1).

Thomas (2003) describes quantitative research as using numbers, being based in statistics, examining causal relationships, and generalizing from particular instances to create a theory. He describes qualitative research as seeking to understand personal stories, naturalistic, and looking at theory through the lenses of people’s experiences. The two approaches share some similarities, but come from very different theoretical frameworks. Some fields prefer qualitative approaches to quantitative approaches, or vice versa, and some researchers hold the perception that studies with “quantitative orientations are often given more respect (Berg, 2001).
Creswell (2003) suggests one reason to use a qualitative approach is because it is “exploratory and researchers use it to explore a topic when the variables and theory base are unknown” (p. 74). Yin (2009) notes that case studies can focus on individuals, groups, and do not have to necessarily focus on people, but can also study events or organizations. In comparing it to other approaches, Yin suggests using case study approach when answering a “how” or “why” research question, when the situation does not require control of behavioral events, and when it does focus on contemporary events. The case study question for Project YES met all of these criterion: it was asking a “how” question regarding knowledge creating, does not require controlling behavior; and was focusing on the current activities of the Project YES participants. This study was conducted as a qualitative, observational case study that explored processes and patterns of knowledge contribution in the Project YES online learning community.

Rationale for Research Approach/Genre

A case study approach allows the researcher to use multiple forms of in-depth data, collected over time, to explore a bounded system, or case (Creswell, 2007, p. 73). Case studies have been used for many years in a wide variety of disciplines (Creswell, 2007; Yin, 2009). According to Tellis (1997b), the case study originated in Europe, probably in France (Case Study Methodology section, para. 1). The modern case study approach originated in the fields of anthropology and sociology (Hamel, Dufour, and Fortin, 1993). The methodology commonly used in the United States evolved from work at The University of Chicago Department of Sociology in the early 1900’s (Tellis, para. 1).
Within qualitative studies, there are a vast number of approaches; however, some of the most common approaches include, narrative research, phenomenology, grounded theory, ethnography and case study (Creswell, 2007). Bodgen and Biklen (1998) define a case study as a “detailed examination of one setting, or a single subject, a single depository of documents, or one particular event “ (p. 54).

Currently, there are a variety of case study approaches a researcher can use. Creswell presents a broad overview of some approaches, such as Yin’s quantitative and qualitative approaches and the more specific types of case studies Yin discusses, including explanatory, exploratory, and descriptive case studies (p. 73). Creswell also mentions Merriam’s general approach to case studies in education, and the case study procedures outlined by Stake (p. 73). Tellis (1997b) provides more in-depth information about the different approaches and explains some of the criticism case study methodology has received, such as questions regarding rigor and limited information that can be gained from analyzing one case.

The observational case study approach was used in this study with the Project YES participants. The observational case study approach is one in which “the major data-gathering technique is participant observation (supplemented with formal and informal interviews and review of documents) and the focus of the study is on a particular organization… or some aspect of the organization (Bogden & Bilken, 1998, p. 55). This approach was relevant for Project YES because the data for the study incorporated observation of the participants in the online community and looked at the aspect of knowledge contribution. Also, the study included interviews and reviewed any “documents” the participants post online.
Data Collection

Introduction and overview.

This study was based on a bounded system of the Project YES interns’ online learning community; therefore a case study approach was chosen. This study explored the experiences of Project YES interns as they interacted in an online community designed to help them gain further training while sharing lessons they learn from their experiences.

Project YES is a grant program funded by the Department of Defense and the USDA. The program trains college interns to implement leadership and life skills curriculum with military youth whose families are dealing with deployment issues. The interns are college undergraduate and graduate students from different universities around the United States. Project YES is designed to help the interns with two areas: 1) they are being trained to implement leadership and life skills curriculum and facilitate reflections with the military youth; and 2) they also being trained in professional development areas (e.g., time management, event planning, professional communication, project management, and self-evaluation). Many of the interns are interested in careers in extension, military family life support services, or non-profits, and the goal of Project YES regarding the interns is “to increase the number of students completing internships and entering professional careers in child-care and youth development programs” (eXtension Military Families, 2011). However, the professional development skills are general in nature and could be useful whether they pursue these careers or other paths.

Since the interns attend universities in several different states, it is economically impractical for Project YES to train the interns in face-to-face setting. Therefore, after an
initial face-to-face training, the interns participate in ongoing, virtual training. The online components of the program incorporate several different technologies, such as Skype, Elluminate, Wiggio, Twitter, blogs, Youtube, Dropbox, and Photobucket to facilitate the learning community. Much of the interaction among the interns and between the interns and Project YES staff happens online. An intern will see some of the other interns face-to-face at military events when they are working in teams with the youth. However, it is possible that some interns will only see each other at the face-to-face training. Face-to-face interaction with the Project YES staff is also limited. Project YES staff attend some of the events and may see a specific intern once or twice during a semester; therefore, the online learning community is essential to provide ongoing support and learning opportunities to assist the interns as the work with the military youth. In order to ensure the cohesiveness of the online learning community and the effectiveness of the online training, it is important to analyze how elements of using technology both enhances and interferes with the productivity of the group and whether the online community helps the interns build and disseminate knowledge.

Using a case study approach in this setting allowed me to gather data from interviewing the interns and from observing their interactions online. I chose the case study approach because I am interested in looking at the experiences of the individual YES interns as they interact and learn in an online learning community in order to describe the essence of such an online community. This is an example of a single instrumental case study, where the online learning community is the bounded system (case) being studied (Creswell, 2007).

Stake (1995) stresses the importance of a case study being “noninterventional and empathetic” (p. 12). My role as a supervisor and trainer for the interns made it relatively easy
for me to conduct the case study in such a manner since the interns were accustomed to me asking for feedback about many elements of their experience. Stake also emphasizes the importance of understanding the perspective of the participants and avoiding highlighting the researcher’s interpretations over those of the participants (p.12). In order to prevent underrepresentation of the participants’ views, Stake advocates presenting multiple realities to showcase “the different and even contradictory views of what is happening” (p. 12). Due to the nature of my involvement with the interns, it may be impossible to remove my viewpoints completely from the analysis; however, I focused on the interpretation of the interns and involved outside evaluators to help maintain focus on the interns.

**Research sample.**

The six participants for this study were a subset of the 18 Project YES interns from around the United States who are served from May 2011 through May 2012, as the program’s second cohort, and who participated in the online learning community. The Project YES interns who formed the second cohort were all enrolled college students; eleven were undergraduates and seven were graduate students. They were all from different universities in 12 different states: California, Florida, Georgia, Hawaii, Kentucky, Maine, Maryland, Massachusetts, Nevada, North Carolina, Virginia, and Wisconsin. There was one male intern and seventeen females. Based on how they self-identified, four interns were African-American, one was Hispanic, and thirteen were Caucasian. The interns ranged in age from 19 to 51. Fifteen of the interns were ages 19-23; the others were 25, 28, and 51-years-old. The interns had different work experiences with most of them being the typical jobs college students have such as jobs in retail or food industries. Many of them had other
internships that relate to their educational majors. None of them had worked in an extremely professional corporate setting. Also, outside of one intern who was in the National Guard, none of them had previously worked in military environments.

In their work with Project YES, the study participants functioned in one of two roles:

- **Team leads** – These interns led groups of their peers in planning and implementing youth events. They function as the liaison between the military point of contact, the Project YES director, the Project YES training coordinator, and the other interns on their team. The team leads communicate with the military point of contact regarding event logistics and curriculum themes. They coordinate with training coordinator to ensure that the curriculum selected for the event is appropriate, and they work with the team members to make sure everyone sets professional development goals and has a shared vision of the plan for the event regarding working with the military youth.

- **Team members** – The team members worked with youth and other interns, but did not serve as team leads. As a team member, interns provide suggestions to the team lead for which curriculum activities they wish to implement. They also help support the logistical planning for the event. However, they rarely interface with the military point of contact prior to the event. During the event, they interact with the youth and work together to conduct the leadership development activities.

Outside of my researcher role, my connection with the team lead and the team members is to function in my Project YES role as training coordinator and to support the efforts of the team lead and team members as they plan and facilitate the youth events. I often work closely with
the team lead to address issues that arise from the military point of contact. I focus on the curriculum and make sure the proposed event schedule works with our program requirements and also addressed the need for the military youth. Sometimes, this involves helping the interns realize how to adapt curriculum for a particular age group, or how to generate an event agenda where the curriculum pieces build on each other in a logical flow.

In order to get a range of feedback from interns who were involved in Project YES at different levels, two interns from each group were selected for recruitment who regularly volunteer for additional assignments; and one intern from each group was selected who rarely/never volunteers for additional assignments. Once selected for recruitment, the interns were invited to participate in the study via a recruitment email. The interns are used to working with me on many aspects of their internship through email, so a recruitment email was the most effective way to communicate with them about the study (See Appendix D). The Informed Consent Form (See Appendix E) was attached to the recruitment letter. All of the interns approached to join study elected to participate and they signed the form and returned it to me.

**Timeline.**

The study took approximately six months. The IRB was submitted during the fall of 2011 and data was collected from January 2012 through June 2012. Phase I began in January 2012 with interviews and continued through May 2012. Phase II, which was a series of observations of the interns’ online participation, began in January 2012 and continued through June 2012. Data analysis began as soon as data collection started in January and continued throughout the data collection period. Data analysis continued through July 2012.
Written results of the study were completed by October 2012. A detailed timeline for the research study is depicted in Figure 2.

Figure 2: Timeline of Project YES Study

**Data collection plan.**

The Project YES data collection was conducted in two phases. The initial phase consisted of interviewing the study participants face-to-face at one of the military youth events, or online via Skype or Elluminate, and phase two consisted of online observation of the interns’ activities in the online learning community.

**Phase I – Individual Intern Interviews**

In the initial phase, I conducted the interviews while attending one of the military youth events, face-to-face in my office, or via Skype or Elluminate. Military youth events are held at either a hotel or conference center, so the interviews were conducted in a hotel conference room where interns are used to conducting activities with the military youth. Interns regularly receive individual feedback from me at events on a number of topics, so
holding a one-on-one conversation did not identify them as participants in the study.

Initially, I planned to conduct all of the interviews in person and I attended more events than normal as part of my effort to meet face-to-face with participants. The busy schedule at the events made it difficult to find time for face-to-face interviews, so I ended up conducted one interview face-to-face at an event, two interviews were conducted in person at my office, and four interview were conducted online via Skype or Elluminate. Local interns often meet with me in my office and all interns are used to communicating with me via Skype or Elluminate as part of the planning and debriefing they do during the internship.

Interviews were approximately one hour in length and were audio-recorded. I also took hand-written notes during the interviews. During the interview, participants were asked their opinions regarding technical aspects of the online community and how the online learning community allows them to create and share knowledge with the other interns. (See Appendix F for the Interview Protocol and questions.) Participants were given the opportunity to review the transcriptions of their interview. All participants approved the transcriptions of their interviews.

Phase II – Online Learning Community Observations

In the second phase, I analyzed activities and interactions in the online learning community. I recorded data from my observations of how the interns interact in the online learning community and also analyzed “documents” they created, such as blog posts and forum discussions. I collected this type of data from the same interns I interviewed so as to get a multi-faceted representation of how they interact in the community. This data included looking at how the interns plan events through email, Wiggio, and Skype; their blog
postings after events; and recordings of debriefing sessions through Elluminate or Skype.

The following data was collected:

- **Event planning data** – Event planning data included emails exchanged by interns as they planned an event, data from the team folder on wiggio.com (usually documents and comments on the documents), and recordings and observations of planning meetings held via Skype. The interns generally plan events primarily by communicating with each other through emails. The team lead often sends emails about deadlines and actions items. They also set up an event folder on wiggio.com where they upload documents and comment on the documents. The teams also hold meetings via Skype. There is usually an initial Skype call where the team begins planning their curriculum for the event and assigning group roles. There is also usually a final Skype call one or two days before an event just to make sure the team is informed of any changes. I collected data from all of these online elements of individuals participating in the study during each month of the data collection phase.

- **Event Blogs** – Following all the events they attend, each intern is expected to write and publish a blog posting about the event on the Project YES blog. These postings are approximately half a page in length. The interns sometimes comment on each other’s postings. I analyzed all the blog postings and comments made by the participants during the data collection phase.

- **Elluminate/Skype Sessions** – Each month, the interns are expected to attend a debriefing session that is held in Elluminate. The interns discuss their events with
interns from other teams, and talk about planning processes and event facilitation strategies. I recorded the Elluminate sessions that occurred during the data collection phase and analyze participants’ participation.

These artifacts provided a way to assess how participants are sharing, creating, and constructing knowledge and how technology impacts that process. Some of the things I looked for included: types of information that is shared; when information is shared; whether information is shared only in response to information posted by the site facilitator, or if participants voluntarily share information with each other; with whom information is shared – (whether participants share with all interns, or only those with whom they work most often); and which technologies participants tend to use more frequently to share knowledge with each other. At the end of the data collection period, all of the participants were given the opportunity discuss the observations related to their online participation. Only four of the six interns chose to talk with me via Skype about the observations. The other two were satisfied with reading their transcripts.

**Placement of data, storage of data.**

The study included two types of data: interview data from the face-to-face or Skype/Elluminate interviews with participants and observational data of the online community activities. Both types of data are discussed using pseudonyms for the participants. Before beginning any data collection, I created a key for the pseudonyms that were used. The master key for the code was kept in a password-protected folder to which only the principle investigator will have access. Digital data was stored within a password-protected folder on my laptop.
Efforts were taken to ensure anonymity to the level possible; however, due to the small number of participants and Project YES staff’s familiarity with the interns, there is the chance that participants could be identified from their comments. This was explained to the participants, and every precaution was taken to insure that this does not happen.

Although I also work closely with the interns during training and throughout their internship as they plan their events, none of the areas addressed by the study are part of performance evaluation information that could impact interns’ eligibility to travel to any events, or to apply for additional years in the program; therefore, there is no risk to the participants.

**Ethical and political considerations.**

My study focused on assessing the online learning community for Project YES interns. Project YES trains college interns to work with military youth in areas of leadership, life skills, and STEM curriculum. Ethical issues may arise if participants shared sensitive information that, if shared and associated with a particular individual, could impact their jobs, or family situations. Potential risks existed for Project YES interns since I was their training and curriculum coordinator. Some interns have continued with the program as members of cohort three. Those interns may be concerned that information they shared might affect site selection; team role selection; and whether or not they are chosen to return for another year in the program. This is significant because Project YES is a job for the interns, as well as a professional development opportunity. However, the risk is minimal because in order to impact the intern’s status, the information would have to be associated with some extreme breach of the program’s code of conduct and none of the information in the study is
used for evaluation purposes.

One political consideration is that the interns are working with military youth, their families, and military families. The interns are only working with youth in areas of leadership, life skills, and STEM. However, sometimes in reflection sessions after the youth development activities, the military youth share information about their families’ deployments and how they were affected. Military youth are not identified and the study does not share information that would be a security breach. Any information the interns shared about the military youth or military staff in the online learning community was omitted from the study, or presented anonymously. No real names of military youth or actual locations of military youth events were included in the report.

Data Analysis

The data collection occurred during the 2011-2012 academic school year during the second year of Project YES. I collected multiple types of data including observations of online postings and interactions, and interviews. The observations and interviews occurred at multiple points during the year, which resulted in a great deal of data. Miles and Huberman (1994) discuss the challenge of dealing with so much data that the researcher is overwhelmed, and they recommend conceptual frameworks and research questions as a way to help focus the data collection and analysis. Therefore, the initial part of the data analysis actually began in parts of the data collection phase. This helped me continually refocus the collection process to keep the research questions in the forefront. I used Van Aalst’s discussion of knowledge sharing, creation, and construction as the primary conceptual
framework. My overall research question was connected to the analysis of all the data forms. All of the subquestions were connected to the interview data. The other data forms were associated with other subquestions (See Table 1).

Also, during the data collection phase, I reviewed the interview notes, transcriptions, and observations soon after collecting the data in a simultaneous collection-analysis approach, which Merriam (1998) advocates. In addition to reviewing and taking notes simultaneously, Merriam suggests writing a reflective piece to help capture ideas and suggestions for future explorations. I incorporated reflective writing into the data analysis. It was beneficial related to interviews and online team meetings. Such frequent review of the

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| Interviews                           | • What patterns of interaction emerge among the interns that foster knowledge sharing, construction, and creation?  
• How do the technology tools facilitate the various modes of knowledge contribution?  
• When does knowledge sharing, construction, and creation occur in the online setting?  
• What impact does the knowledge sharing, construction, and creation process have on the professional development goals of the interns? |
| Event planning data (emails, Skype, Wiggio) | How do the technology tools facilitate the various modes of knowledge contribution? |
| Event Blogs Posting                   | What patterns of interaction emerge among the interns that foster knowledge creation?         |
| Elluminate/Skype Sessions              | How do the technology tools facilitate the various modes of knowledge contribution?         |
data during the collection phrase was beneficial in identifying the repeated items that were both present and missing as discussed by LeCompte in his second step of analysis (p. 148). Identifying these patterns further assisted in determining where the holes are in the data collection so that I could refine aspects of collection as needed. Due to the large amounts of data, a research software system can be a significant asset when working with multilevels of coding, (Denzin & Lincoln, 2003; Merriam, 1998). At this stage of analysis, it may have been beneficial to use an analysis software program, such as NVivo, to help analyze the surveys, interviews, and observations.

I had intended to use analysis software, which would have been helpful in conducting LeCompte’s third and forth step: grouping items and creating patterns. However, I was unable to find an appropriate version to use with my Mac computer. I preferred to use either NVivo or ATLAS.ti since they appear to be the most commonly used software for qualitative research; however, neither program runs natively on a Mac. The websites for both products indicate that the software can be used if the Mac user creates a parallel desktop, or uses an additional software product. I decided to do my coding by hand using printout of my transcripts and other data. I used colored highlighters/pens and sticky notes to organize my coding system. I began coding after transcribing the first interview and continued the process throughout the data collection phase. I continually refined categories and patterns throughout the data collection and analysis phases as new artifacts were added. In order not to get bogged down in these phases, it was important to look for indications of when enough data had been collected, such as saturation of categories, emergence of regularities, and over-extension (Merriam p. 164).
Once all of the data had been collected and transcribed, I began determining what structures were indicated from the patterns that had been identified. This culmination phase of the data analysis required reviewing previous groupings and patterns to ensure the focus was on the most significant aspects. I grouped the themes together and initially determined what became the nine subthemes. I was struggling to fit all nine into a manageable framework. Then I realized that the nine themes could be grouped into three higher-level themes. This resulted in the three themes and nine subthemes that are discussed in chapter 4.

**Data Display**

The Project YES case study report presents a narrative, detailing experiences of the interns. It presents the themes that emerged around knowledge contribution processes in the online community. It also identifies what types of successful interactions appear to emerge within the community. Typically, a case study is presented as a narrative, but it can be a more creative or academic styles. Since a case study can be written in a variety of styles, and there is no set form, it may make the report difficult to write (Yin, 2009). Creswell (2007) suggests one framework that provides some structure – the funneling approach where the writer first presents a broad picture of the case and the setting and then funnels down to a narrower focus. He also recommends following a chronological approach if the presenter is talking about a process or procedure. Another approach is the theory approach, where the presenter builds up to the theory by presenting pieces of the theory one part at a time. The Project YES report uses the theory approach. In chapter 5, the theory is presented as the answer to the overarching research question and the case is built by discussing the themes that emerged from the data analysis.
Yin (2009) emphasizes the importance of considering the audience before writing the report. He notes that case studies potentially have more readers than other research approaches and points out that every audience was different and there is no report template that will work for everything. Creswell (2003) presented a list of conventions to use when writing the report; including, “varying the use of long, short, and text-embedded quotations;” “using the first person “I” or collective “we” in the narrative form;” and “intertwining quotations with (the author’s) interpretations” (p. 197). The content of the report should include the narrative description of the experience and the interpretive meaning of the experience. (Creswell 2003). I followed these conventions in writing about analysis in Chapter 4 and the implications in Chapter 5.

**Researcher and Subjectivity Statement (Positionality)**

One limitation of the study is related to my relationship with the participants, which is a mix of colleague and instructor roles that could influence how I interpreted the findings from the study. I work closely with the college interns to plan and implement curriculum at the military events. I also train them and function as one of their supervisors. I work with the military youth coordinators as a colleague to enhance programmatic offerings for military youth. I have to maintain a high level of professionalism in these relationships, especially since I am representing the General H. Hugh Shelton Leadership Center. I interact less with the military youth, but I am involved with some of them in an instructor role at the events. Many of these relationships are tied to a single event, but I may interact with some youth multiple times at different regional meetings. While the coordinators and military youth are
not participants in the study, my involvement with them may impact how I evaluate the work of the college interns.

Another limitation of the study is that I bring many biases to this study including a strong belief that the model the program is based on can be successfully implemented in an environment with military youth. This assumption comes from my bias towards interactive curriculum modules that incorporate critical reflection as a way of helping youth address concerns they may have in other areas of their life. I have seen the model work in other contexts, but will have to remember that each context is different and make sure I evaluate the YES program in its own context.

I also hold the assumption that partnerships between adults and college students, where college students are viewed as colleagues, can be effective professional development. This is another model I have used successfully in other contexts, and will have to make sure I evaluate its strengths and weaknesses within the parameters of the YES program.

Another relevant bias I have is that I believe instruction can be delivered effectively online, albeit differently than in a face-to-face environment. I tend to prefer a hybrid method, and I am already trying to incorporate both online and face-to-face training. I will have to evaluate the effectiveness of each piece outside the realm of my own preferences.

I addressed these limitations by having subject matter experts provide feedback to prevent my interpretation from becoming skewed. I had two colleagues provide feedback: one works with the Shelton Leadership Center and is familiar with the concept of Project YES, although she does not work directly with the program. She is also an expert in the area of youth leadership development. The second colleague is a professor with expertise in the
field of Adult and Higher Education with a great deal of experience in qualitative research. She has no knowledge of Project YES outside of her discussions with me. Their feedback was invaluable in helping me make sure I remained constant in how I was addressing my topic and answering my research question.

Experiences.

My past experiences teaching online and working with service-learning programs have led me to become involved in this study. I became interested in instructional technology when I was teaching a professional communication course for engineering students, and my department decided to offer half of the courses online. I missed the face-to-face interactions with my students, but really enjoyed exploring different ways to deliver content and engage students online. My experiences with those online courses led me to enroll in the Curriculum and Instruction PhD program where my focus is Instructional Technology, and are currently impacting my work with the Project YES study. I am also involved in this study, because I have worked with leadership development and youth participants in many different service-learning contexts. I have had many positive experiences working with youth leaders at the college level and collaborating with them in professional development relationships.

Relationships - positionality.

My relationship with the participants is a mix of colleague and instructor roles. I work closely with the college interns to plan and implement curriculum at the military events. I also train them and function as one of their supervisor. I work with the military youth coordinators as colleagues to enhance programmatic offerings for military youth. I have to
maintain a high level of professionalism in these relationships, especially since I am representing the General H. Hugh Shelton Leadership Center. I interact less with the military youth, but I am involved with some of them in an instructor role at the events. Many of these relationships are tied to a single event, but I may interact with some youth multiple times at different regional meetings.

**Veracity and Trustworthiness**

In order to ensure the trustworthiness and rigor of my study I used some established tools and models, such as David Kolb’s Experiential Learning Model about knowledge and Van Aalst’s work on knowledge that connects to the Knowledge Building Theory of Carl Bereiter and Marlene Scardamalia. To test the validity of my interview questionnaire, I used the method of peer debriefing or review, which is one of John Creswell’s (2004) validation strategies. The same two colleagues mentioned previously assisted with peer debriefing/review. Both of them reviewed the interview questionnaire and the colleague from Adult and Higher Education also reviewed my coding strategies and resulting themes. Additionally, I had the participants member check the transcriptions of their interview data. Each participant reviewed and agreed with his/her transcript. I provided the opportunity for the participants to provide feedback on my observation data. Four interns opted to have a Skype or phone call about the observations. These strategies helped me address the question that LeCompte poses of whether the researcher “gets it right” based on the perspectives of the people living the experience (p. 152).
Summary

Using the approach of a bounded, qualitative case study allowed me to gather individualized data that is specific to the Project YES community. This was important due to the uniqueness of the purpose of the Project YES program. The data analysis process helped me code the data and determine findings on a larger scale of meaning that has the potential to be applied beneficially outside of Project YES. The data analysis for the Project YES case study resulted in three themes that emerged around knowledge contribution processes in the online community based on the experiences of the interns. The three major themes that emerged are: Perceptions of Place, Sense of Self, and Purpose and Values. The themes and corresponding subtopics are discussed in Chapter 4.
CHAPTER 4: FINDINGS

The Project YES internship program was developed to provide professional development support for college interns interested in career areas related to military family support services, extension, or non-profit organizations. The program provided this support through training college interns to work with military youth whose families are being impacted by deployment. In this bounded case study, I explored the interactions of Project YES interns in an attempt to analyze how the interns created and explored knowledge in an online learning community; and to analyze how technology contributed to or hindered creating, constructing, and sharing knowledge within the Project YES community. To obtain data, I interacted with the study participants in my role as curriculum coordinator and interviewed them about their participation in and perceptions of the Project YES community. I also collected online data from their online postings, emails, and participation in online meetings.

During analysis of the data, three major themes emerged: “Perceptions of Place,” “Sense of Self,” and “Purpose and Values” and each theme had three subcategories as depicted in Table 2. The interns’ perceptions of the online and face-to-face elements of the Project YES community primarily provided data for the Perceptions of Place theme. This theme had three subcategories: “sense of community,” “subnetworks,” and “external networks.” The second theme, “Sense of Self,” was based on data reflecting how the interns viewed their contributions and interactions in the Project YES community. The three subcategories in this theme were: “role in the community,” “personal and private
boundaries,” and “interconnections/patterns of interactions.” The third theme, “Purpose of Values,” emerged from data about the interns’ understandings of the purpose of Project YES, their reasons for being part of the community, and the values associated with the community.

The subcategories for the third theme were: “what drives knowledge contribution,” “understanding purpose of community,” and “values (communication, technical, and work ethic).”

**Table 2: Themes and Subcategories**

<table>
<thead>
<tr>
<th>Themes</th>
<th>Subcategories</th>
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<tbody>
<tr>
<td>Perceptions of Place</td>
<td>Sense of Community</td>
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<td></td>
<td>Subnetworks within the community</td>
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<td></td>
<td>External Networks</td>
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<tr>
<td>Sense of Self</td>
<td>Role and Contribution in Community</td>
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<td></td>
<td>Personal and Private Boundaries</td>
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<td></td>
<td>Interconnections/Patterns of Interaction</td>
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<tr>
<td>Purpose and Values</td>
<td>What Drives Knowledge Contribution</td>
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<tr>
<td></td>
<td>Understanding Purpose of Community</td>
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<td></td>
<td>Values - Communication Technical Work Ethic</td>
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The convergence between the three themes that emerged in this qualitative research addressed the case study’s primary research question: *To what extent do participants of an educational online learning community in a non-formal setting engage in sharing, constructing, and creating knowledge?* In this study sharing, constructing, and creating knowledge was defined using Van Aalst’s (2009, 2004) definitions: construction was associated with problem solving and constructing understanding of concepts; creating was
associated with ideas that sustain innovation; and sharing was the transmission of knowledge between people. The themes also addressed the four research subquestions.

- What patterns of interaction emerge among the interns that foster knowledge sharing, construction, and creation?
- How do the technology tools facilitate the various modes of knowledge contribution?
- When does knowledge sharing, construction, and creation occur in the online setting?
- What impact does the knowledge sharing, construction, and creation process have on the professional development goals of the interns?

**Perceptions of Place**

The theme *Perception of Place* relates to how the interns view the Project YES community, including both online and face-to-face elements. This theme was evident in all forms of the data. During data analysis, three related subcategories emerged: sense of community, subnetworks within the community, and external network connections.

**Sense of community.**

The Sense of Community subcategory is reflected in how the interns are aware of the Project YES community space and what they see as important characteristics of the community. Awareness of the community was evident in the interview regarding perceptions about the geographic and online spaces, characteristics and challenges of the community, and role of technology in the community.

The interns very much realize how the geographical aspects of the Project YES community impact the balance between the face-to-face and the online facets of the
community. The fact that the interns are spread out and attend events in different states is part of one of the defining elements of the community – that Project YES is a diverse, nationwide program. However the interns also see the geographical distance as a challenge or barrier that technology helps to mitigate. Catherine from California specifically commented on how technology can address the geographical distance and help unify the team:

*The biggest difficulty is that we’re so far apart – we’re spread throughout the United States. And I think that using things like the blog is a really great way to transcend the geographical boundaries and allow us to discuss as if we were right next to one another. We do utilize Skype as well, and it’s nice considering that we’re all so far apart. It’s also a way to kind of transcend the barriers of geography and get help. Skype is a way to bring the group together.*

The interns did convey the sense that they feel like part of something bigger than just themselves and their individual contributions. Amy when asked about her role started by saying “I am part of a team.” Some major characteristics of what comprises the sense of community were evident in the participants’ interviews. One characteristic was the desire for transparency of what is happening and awareness of what others were doing in the community. Amy mentioned how much she liked a new process that allows all interns to see where the different teams will be traveling for current and upcoming events and what branch of the service will host the event. Lorraine liked being aware of what was happening on the weekend while teams were at events around the country:

*I read the tweets cause they’re short and it’s so nice to be updated by the other events, especially on the same weekends that you’re out and kind of see what’s going*
on. See if someone got coined. It’s kind of nice to be able to talk briefly like that and update each other.

In addition to just knowing what happening, there is also the belief that it is important to have opportunities for involvement with the whole group in order to unify the group. Catherine mentioned how online comments and discussions can get people involved and build some of the needed connections between interns:

I can use the internet community to get curriculum that’s related to that theme, but I also use it a lot. I think it comes in handy to kind of unify the team since we’re all over the United States so using like Twitter and the blog system, I think that that’s a good way of discussing what we’re doing so that everybody can kind of see what’s happening everywhere else.

Catherine also described how technology can support a higher level of inclusivity and provide ways for interns to be involved with each other in spite of the geographic challenges:

People from other teams commented on my blog - people from other parts of the United States that I don’t see ever. So it was kind of sufficient, for example, one of our team members is all the way in Maine and I don’t work with them since I live in California. It allowed somebody all the way from Maine to see what I was doing at an event in San Francisco or Anaheim. They were able to chime in and also take that information for themselves.

Another apparent belief about the community is the feeling that it is an “enclosed” community, and thus it affords a certain element of privacy to those within the community. Along with this expectation of privacy, there is also a correlating expectation that people are
expected to respond professionally within the enclosed community in a way that evokes a certain level of trust among the members. Sierra provided an example of how she felt this type of privacy and trust in how she feels free to express herself on the blog:

A lot of people just pour out what they feel, or what has happened, and that’s really enjoyable to read cause it’s a little bit uncensored. I know for me like I’m...I don’t censor or filter what I put in that um because it is a place to learn and grow. Like there’s no repercussion, you know. I mean it’s just for interns so it’s private. It’s not like someone’s going to put: “Oh you didn’t learn that, you suck.” I mean they’re not gonna do that.

When the interns go beyond just sharing their own knowledge and viewpoints to the point where they are identifying and approaching specific interns who have knowledge to share, they begin building bonds that build on that sense of trust and begin to form reliable support networks. One example of this from Catherine’s interview related to learning how to use unfamiliar technology:

We have specific interns that are very technologically savvy. So they can help with learning how to update my laptop and how to cite references. But I think that learning together how to use it has also helped us kind of bond in a way, if that makes sense.

So it's nice to know who you can rely on.

By seeking knowledge from other team members, interns can begin building a reliable network that can provide assistance and support when needed.
Subnetworks.

Forming reliable subnetworks with the Project YES community is another element that impacts perception of place. These networks are the subgroups that form when the interns voluntarily choose to communicate regularly with specific people in ways that are not required by the internship. While some interns may be paired together more frequently because of geographic proximity, the overall composition of the teams changes frequently from event to event based on the interns’ availability and the number of youth projected to attend different events. Outside of planning and facilitating activities for assigned military youth events, there are no requirements for the interns to work together or remain in contact with each other throughout the internship. However, in discussing communication with other interns, each participant in the study described his or her own unique subnetwork.

According to the interns’ descriptions the subnetworks seem to form organically due to influence from three factors: geographic proximity; intern assignments for the military youth events; and, personal relationships that begin at orientation when they initially met in person. The subnetworks are small. All the interns in the study had between two and five other people in their subnetwork. Figures 3-8 show the geographical connections in each participant’s communication subnetwork. The figures also show the primary technologies interns used for each connection in their network. The connections are color coded to represent which technology the interns used.
Subnetworks Key

Email
Text
Facebook
Phone
Skype

Figure 3: Catherine’s Subnetwork – California

Figure 4: Lorraine’s Subnetwork - North Carolina
Figure 5: Sierra’s Subnetwork – Hawaii

Figure 6: Shane’s Subnetwork - Kentucky
The interns tend to talk more with people who are geographically closer to them. Proximity seems to be a factor regardless of whether interns are regularly assigned together to face-to-face teams. For example, Sierra lives in Hawaii and was rarely assigned to teams on the mainland at all. She worked mostly by herself at events in Hawaii. Her subnetwork, depicted in Figure 5 was comprised of the two interns from the western United States,
Catherine in California and Sophia in Nevada. She also communicated with Lorraine in North Carolina, with whom she had connected during the initial face-to-face orientation week.

Face-to-face connections also play a role in the formation of the subnetworks. The interns reported a tendency to maintain the communication in an online setting after forming a positive connection at orientation or military youth events. When he described his subnetwork, Shane’s reasons regarding the interns in his subnetwork related strongly to face-to-face connections: “And they would definitely be part of my five from during orientation for sure. They’re some of the ones I’ve worked with the most, and I’ve definitely spent some of the most time with them.”

Amy stated similar reasons regarding which interns were in her subnetwork:

*I go to Catherine and Alissa, or Karen. Just because I’ve worked with them the most I think as team leads. Otherwise I definitely know if I was on more events with like Cheryl and Virginia I would definitely go to them. It’s just I’m on the most events with Catherine, Karen, and Alissa.*

Continued online communication also occurs sometimes with minimal or no face-to-face connection at events after orientation. For example, Lorraine, who lives in North Carolina, very rarely participated in events with Sierra and they were geographically very distant; however, she explained that Sierra was in her subnetwork due to a personal connection made at orientation:

*I talk with Sierra the most because she and I connected on a personal level when she was here for orientation. Now we talk several times a week. We mostly use Skype and*
text to talk about personal stuff and Project YES. All that started during orientation and then we just stayed in touch after Sierra left North Carolina and went back to Hawaii.

Also of interest were the reasons that surfaced regarding why other interns are not included in the subnetworks. Some of the participants pointed out that there are interns they have never seen or spoken to since orientation. As a result, they do not have any communication with those interns, or such communication is limited to only what occurs during the monthly group debrief Elluminate sessions held by the project training coordinator. These limitations can impact what knowledge is shared with specific people in the community. For example, Catherine mentioned that not seeing the interns impacted whether she shared personal experiences that may help the interns’ Project YES experience. She is the wife of a Marine and believes her personal experiences with deployment can help the interns understand what families go through. She shares her experiences with some of the interns on her event teams. However, when asked if she shared her experiences with most of the interns, she responded:

\[\text{Definitely not, just because we met for orientation, but I haven’t seen even all of the interns since then. A lot of times we just get to get together for debriefing activities through Elluminate we come as an entire group to debrief the events of that month.}\]

Shane noted that sometimes personal perspectives of other interns and associated comfort levels impact relationships and communication, which can result in interns not being included in subnetworks:
...definitely you have your perspective of individuals so I think that comes into play about how you feel about that intern, that relationship and um...I think also it comes in terms in whether it’s negative or positive. I mean I definitely have some interns I would not care one bit to share about a negative experience with them that I’ve had, or that I feel like they’ve had. But then there’s other interns where I just don’t have that relationship. Either working or personal that I would feel comfortable sharing anything.

Shane also mentioned that having positive perspectives about someone is not necessarily enough for that intern to be in the subnetwork. Sometimes a positive in-person relationship exists, but it does not continue in an online setting. Shane explained that he has a very good relationship with Sophia in a face-to-face environment; however, they do not really stay in touch online:

_Sophia, for instance, I mean when it comes to Project YES we work really well together. I can pick her up at the airport and we can start chatting from minute one and chat until it’s time to leave. Yet, definitely when I’m not with her at Project YES I don’t really talk to her a lot. And yet when we’re together like face-to-face we can have really serious conversations that go ‘til 3 am in the morning. But we don’t have those if we’re not face-to-face. We don’t have those through text messaging or Skype or email._

In addition to identifying who was in the subnetworks, the interviews provided different insights into why interns maintain the subnetworks and what the associated benefits are. All of the subnetworks had both personal and Project YES related connections. Some of
the individual connections are personal, some are Project YES related, and some are both, but usually there are distinct reasons why the interns communicate within their subnetwork. Amy shared how friendship impacted her personal connections within her relations. She differentiated between what she called “friend relationships” and “career friendships” regarding the individuals in her subnetwork with whom she connected in a personal context:

Jenny because we formed a friendship right away at orientation and I’m guessing we will be friends forever and then Jessica because we’re going into the same field...So I feel like with some of the interns I have different relationships. I have the co-worker relationship, or the intern relations as well as friend relationship, as well as my future career friendship or relationship.

As part of the professional Project YES connections within the subnetworks some of the interns seek knowledge from their peers. Amy seeks knowledge from all of the professional connections in her network. She discusses the reflection process used to debrief leadership activities with Alissa from Florida: “I ask her a lot of questions about the DEAL process...just cause I really like how she does her DEAL, or her debriefs.” Amy also connects with her other professional connections online and in-person to request feedback on her performance and professional development goals. She notes that she likes getting feedback from different perspectives and that’s part of why she seeks feedback from multiple people:

So like Catherine...she really sets it up so you have goals and you know what you have to work on. She knows how she can help you work on stuff. She really gets to know your style. Alissa, she’s very laid back and she’s like yeah whatever you think.
Go ahead, go lead and she’ll jump in whenever she feels like you’re struggling or she has something important to say, or another way to lead the conversation. So she really helps you run the room smoothly. And Karen, she’s very hands-on when you need her to be and when you want her to be, but otherwise she can sit back and she can watch you do and she can give you feedback. So they all have like three very different styles of like leading the team and also giving feedback. And I really like that...They all three do extremely well and they all provide different kinds of feedback and different things to work on.

Sophia noted that she uses her professional connections in her subnetwork to seek knowledge regarding how to handle interpersonal communications with other interns and military members in a professional manner:

*So I talk to her [Catherine] almost every week and even when we’re not having events I talk to her and event when I’m at an event and I’m frustrated I’ll ask her how do think I should go up to this person if I’m frustrated? Or how do you think I should take the event...She’s worked with me the most so she know how I get so she knows ways to help me adapt of help me calm down and so it’s usually text messages or phone calls with her.*

Interns who had connections that were both personal and professional described how it was generally a mix of personal and Project YES related reasons that keep the communication going.

*Lorraine described her subnetwork as an ongoing blend between personal and professional topics, even during calls that were on “personal time”:*
I do a lot more sharing about curriculum ideas more so with the interns that I keep up with in general. And that’s usually done on Skype. We Skype quite a bit. So just a quick call. Whatever we’re talking about usually leads to Project YES since that’s what we all have in common (laughing) and that’s when we get to talking about stuff. It’s outside of planning time kind of on personal time, but still talking about Project YES.

Some topics are only discussed in face-to-face settings. For example, Amy mentioned talking with other interns about how being away from significant others for the Project YES events can affect relationships. She stated that she only talks about that issue in person:

*I talk about it with the ones [interns] who do have like boyfriends or girlfriends or whatever or husbands. I feel like we do relate and talk about it more when it’s us alone in a hotel room or that type of thing. We don’t really do it online.*

When topics are discussed online, whether the context is personal or professional, the purpose of communication tended to influence what type of technology the interns used to communicate online within their subnetworks. Even the interns who communicated both personally and professionally within their subnetwork tended to use different technology based on the type of communication. Personal communication tended to be done via Facebook, texting, or Skype. Professional communication that was Project YES related was generally conducted via email, Skype or Wiggio. Lorraine shared how she used the different technologies in different contexts:

*Online I use a lot of different forms of communication. I interact with the other interns on not only a professional level, but also a personal level as well. So, when*
I’m interacting on a personal level I use things like Facebook and text messaging, but mainly online I guess interacting personally I only use Skype and Facebook, but interacting on a professional level we tend to use email and Wiggio and Twitter to update about events as well as our blogs.

Amy agreed that Facebook was good for personal communication, due to it being “easy”:

I would say for outside of like internship business a lot of it’s on Facebook because that’s the easiest way to stay in contact and see what people are doing and pictures of them and how they’ve changed you know since you’ve seen them last.

Shane also differentiated which technology he used for different purposes: “when it’s personal related, we call each other or we text. But for Project YES we usually use like email or Skype. Probably Skype the most.”

The subnetworks show how the interns communicate closely with other interns inside the Project YES community. However, some of the interns communicate with external stakeholders as well. The frequency may be different, but communication with external networks can impact both internal and external communications.

**External Networks.**

The Perception of Place theme also includes the external networks subcategory, which analyzes how interns see the Project YES community in connection to outside stakeholders and external networks and how they connect with those external stakeholders. Based on organizations and entities mentioned by the interns, Figure 9 is a representation of how they view the major internal and external stakeholders associated with Project YES.
The topic of external networks was not as prominent in the data as information about the internal subnetworks; however, there was information of knowledge being brought into the Project YES community and shared with other interns. Lorraine shared an example of how she brought knowledge about a new activity into the YES community from an external source and shared it with other interns during a face-to-face military youth event:
I know that I’ve been asked to share some different curriculum ideas with other interns um...I worked with another YES program (Youth Education Services) and they do a lot of similar topics as this YES (laughing) but they do it in different ways, so I know that I’ve been able to share that with other interns. For example, they use the remember ball, and I know at one event with younger kids we were able to try that out. And it worked really well we just had to figure out a way to put the ball away cause it also served as a distraction when we weren’t doing debriefs if that made sense. So, I think as far as that’s concerned, I’ve been able to teach new interns different ideas that we might not have thought of in the past.

Some participants in the study also shared curriculum-related knowledge received from external stakeholders with other interns through their blog postings. This information could be accessed throughout the community because all the interns have access to the blogs. For example, Catherine wrote a blog post about a new way she learned to adapt a leadership teamwork activity we use with the youth. She learned some specific ways to relate it more to military life from a military member who was in attendance at a military youth event:

*At the event one of the [military] individuals watching mentioned that when she facilitates the magic carpet activity, she uses a tablecloth that is shiny on one side and rough on the other. She has the participants mention three good things about three bad things about being in a military family, then she has the group try to flip the tablecloth over as if they are changing their mindset from the good to the bad. If they are unsuccessful, she focuses on the fact that it is not easy to adjust thinking.*
In this instance, the knowledge brought into the community and shared with other interns has the potential of helping interns make a greater impact as they work with military youth at Project YES supported events.

There was also evidence of knowledge flowing out of the Project YES community when interns shared knowledge with outside stakeholders. Interns mentioned sharing some information about facilitating leadership activities, but they also described sharing technology resources and implementations to facilitate online networking. Sierra from Hawaii worked with youth development groups in the Pacific outside of her work with Project YES. In one instance she was working with a group who was in American Samoa to plan a youth event. She recommended they use technology and communication processes that we have used in Project YES to facilitate more effective communication:

*Just using these type of technologies in Project YES kind of opened my mind up in how I can use this in my personal life and how I can use this in my other...you know, my other jobs. I’ve recommended using Elluminate to my networks in Hawaii. Ok, you want to have a call with the American Samoa team, why not use Elluminate. It’s a lot better than doing you know a 6-way conference call and having to be like “oh, excuse me...excuse me, I need to speak.” In Elluminate someone can just raise their hand and you wouldn’t interrupt someone talking. So it’s easy. I can share these resources with the people I work with. And it’s a great way to see how I work with teens as a job aside from Project YES and I’ve shared this technology with them as well, and it’s helped us in what we need to get done.*
In all the data collected, there was only two to three instances noted of either knowledge coming in or flowing out of the community. The interns’ descriptions of patterns of knowledge flow in and out of the Project YES community is seemingly a unidirectional flow (See Figure 10). No one mentioned a reciprocal pattern of knowledge sharing between internal and external units.

![Figure 10: External Networks and Knowledge Flow](image-url)

The Project YES staff collects additional data, such as event evaluations from the youth and military point of contacts and the after action reports from the interns, is collected that could benefit the knowledge base of the Project YES community. However, the information is not currently shared in a beneficial, systemic way. Some interns did note that those sources could
provide good information. Sophia expressed a desire for more specific feedback from the youth and the military point of contacts:

> I feel if we’re going to reach out to other interns [about the events], maybe we should also reach out to our POCs who were at those event, or some of the teens. Some of the teens that are 16, 17, or 18 want to know what you thought of them, or they want to tell you what they thought of the event. I don’t think just evaluations are enough you know because most kids want to get that done so they can go home. So they’re like “oh, this is great…this is good” you know. But, if you give them something that’s fun, for example like Twitter or Facebook, or event like a different website where they could go to talk to other YES interns that were at the event, or for them to be able to say this is what I thought of the event, I think that would be more beneficial than the evaluations...Then everybody, even the other interns could get a better look at it right away because now I might know how my youth did at an event, but the other interns are never going to know because the evaluations are never going to go out to them.

Here Sophia expressed a desire for more information coming in to the Project YES community from some of the external stakeholders. She also mentions interns giving the military youth feedback on their demonstrated leadership skills and involvement from when they were at the event. This would set up more of a reciprocal relationship between external stakeholders than what currently exists.
Sense of Self

The second theme *Sense of Self* relates to the interns’ understandings and beliefs about their role in the community; their current knowledge and skill set; and their ability to enhance and gain professional development skills. Analysis of this theme reveals that the interns’ sense of self impacts many aspects of the Project YES community. Subcategories for this theme are: roles and contributions; personal and private boundaries; and patterns of interaction.

**Role and contributions.**

The roles and contributions subcategory reflects how the interns view the roles they have in the Project YES community, as well as the perspective other team members have about those roles and contributions. This topic includes data from interviews as well as field observations based on my participation in team meetings and military youth events. Some roles within Project YES are assigned. The primary assigned role is that of team lead. A team lead works with Project YES staff and military members to plan and facilitate military youth events. The team lead is also responsible for coordinating the other interns on event team. There are rotating roles within each team of travel liaison, researcher, and photographer, but no one person keeps the same role continuously. If interns are not assigned the role of team lead, their assigned role is that of a staff intern, which is a team member who attends events and supports the team lead to facilitate the leadership activities with the youth. During her interview, Catherine described her role of team lead:

*I work within the group to make sure all the interns have a shared vision as to what the curriculum’s going to look like, making sure they understand the activities in*
general and also how best to debrief them to ensure that we can provide a supportive role with the other youth involved.

Lorraine, a staff intern described her role:

I work with other interns and we facilitate different youth development curriculum at different military events throughout the US, so, as far as my role...I’ve been a team member at a majority of the events...Um... and I play a role in the planning process and then at the events I facilitate curriculum and we debrief and that’s about it.

Catherine’s perspective shows much more of a sense of responsibility for the entire team and success with the youth. Lorraine’s perspective as a staff intern mentions most of the same activities that Catherine did, but without the sense that she is responsible for the success of the team or the youth.

In addition to assigned roles of team lead and staff intern, interns take on other informal roles that emerge as they engage with others in the community. The interns may not even be aware of these roles. For example someone may become a technology support person, or a go-to person for curriculum or reflection activities. During the interviews information was not always directly evident when interns talked about themselves – some individual roles were revealed from answers by other interns. Some roles were also evident in my observations and analysis of meetings, emails, and interactions at events. For example, Catherine from California serves is a team lead and she serves in this role on almost every event she attends. When responding to direct question about her role, she merely said: “I am an active user in the online community. I don’t think I’m part of the uh...I don’t provide much information online but I definitely use the online system to get a lot of information for
current curriculum.” Shortly after, she quickly switched to talking about ways to unify the team. In this general description of her role in the Project YES community, Catherine does not view her role as one of a knowledge provider, but rather as a knowledge seeker. However, the interview with Amy provided a great deal of additional information about the role Catherine plays in the community and depicted her as a knowledge provider. Amy discussed how Catherine encourages her to set and work towards goals. This is also a role that I have observed Catherine fulfill in many of her meetings that I attended and in her email conversations with Amy and other interns. She frequently provided feedback to Amy about reflection facilitation skills, classroom management strategies, and enhancing her personal confidence. Catherine often scheduled Skype calls with me before meeting with Amy to make sure the feedback she was planning to discuss was appropriate. In this scenario, Amy assumes the role of knowledge seeker and Catherine assumes the role of a knowledge provider in the community. As a knowledge seeker, Amy attempts to tap into the knowledge storehouse of another intern, and in this instance Catherine acts in the role of a knowledge provider and responds appropriately to Amy’s attempts to get knowledge from her.

There appears to be a connection between the interns’ perceptions regarding their roles and their contributions to the community. Towards the beginning of the interview, the participants in the study answered a question about what they think their role is in the Project YES community. Later in the interview, the participants answered a question about what they thought other interns have learned from them. The interns’ responses to both questions are presented in Table 3. The interns’ answers to the two questions provide insight into their sense of self in connection with the Project YES community and to aspects of their
knowledge contributions.

Even though Catherine may view herself primarily as a knowledge seeker, she has also become a knowledge provider, as her interactions with Amy exemplify. Catherine notes that her contribution comes from her willingness to share personal information about what life is like for her when her husband, a Marine, is deployed. This supports the observational data from my interactions with her at events and one-on-one discussions that she is very personally invested in this internship because of her connection with the military. She also notes that her contribution includes the interns learning new ways to do activities. This is an example of both knowledge creation and knowledge sharing that she frequently engages in because of her personal commitment to ensuring that the military youth have a positive experience when they attend Project YES events.

Table 3: Perceptions about Roles and Contributions

<table>
<thead>
<tr>
<th>Intern</th>
<th>Role</th>
<th>Contribution</th>
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| Catherine | active user in the community – quickly switched to talking about how to unify team | • Personal experience with deployment as wife of Marine  
• New ways I can do activities – adapting activities  
• Collaborative leadership style – pros and cons |
| Lorraine | team member                                      | • Different curriculum ideas (brought in from external network – other youth development group) |
| Sierra   | staff intern – worked independently creating networks in Hawaii | • Reflection process - stressed that what an individual learns depends less on what she does and more on their own effort and desire to learn. |
| Shane    | staff intern on the “low end of the totem pole” | • “not really for sure … maybe how to facilitate activities differently and how to handle certain situations” |
| Sophia   | team-based answer – used a lot of “we” language  | • being flexible and not stressing out about small things-related to her personal goals         |
| Amy      | team member                                      | • interacting with people of different ages  
• balancing personal and professional responsibilities  
• both are related to her personal goals |

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She also mentioned that other interns can learn from her about the pros and cons of using a collaborative leadership style. Based on her performance scores from leadership facilitation inventories and my observation data, a collaborative style of leadership is her default style. Interns have a wide range of reaction to her extremely collaborative style; and consequently, one of her professional development goals is to determine the pros and cons associated with her use of a collaborative leadership style. She is learning how to use a more tailored situational leadership approach determined by her team and the situation context instead of always relying on her default approach. This is an example of her constructing knowledge. She is using a problem-solving approach and constructing knowledge for herself and other interns about the best way to work together efficiently.

Lorraine describes herself as a “team member.” This shows her sense of self is at least partially related to being part of a team. She sees her primary contribution as introducing new curriculum ideas and teaching “interns different ideas that we might not have thought of in the past.” This is an example of knowledge creation. She is sustaining innovation – coming up with creative new ideas to constantly adapt the curriculum so that it remains relevant and interesting for the military youth. This is an important aspect of knowledge contribution in the community because we often have youth attending multiple Project YES events and we do not want them to repeat the same activities.

Sierra sees herself as a staff intern. She does not mention a team aspect when describing her role. This is not surprising given that she was the only intern in Hawaii during this study and did most of her events solo. She did connect in online group debriefs and when she was at team events to share her knowledge about the reflection process we use and her
classroom management skills. She commented on the other interns’ individual accountability regarding what they gain from her contributions:

*I think it’s what the person wants to take away. People are going to see and take away different things depending on what their needs are at the moment. One intern’s focus may be classroom management. Well, what they’re going to take away from me is anything that I do classroom management wise that they may really attach to.*

This viewpoint connects to her sense of self as a very individualized learner who has crafted her own unique learning journey in large part due to her perception of place being influenced because she was geographically isolated from the team.

Shane’s description of himself as a staff intern on the “low end of the totem pole” may indicate that he does not regard himself as valuable member of the team, or that he does not believe other community members view him as a valuable intern. His description of what other interns can learn from him also has some uncertainty: “*not really for sure ... maybe how to facilitate activities differently and how to handle certain situations.*” He later says that he has been told he is a fairly responsible intern and that others may learn about making appropriate decisions from him. He is reflecting what others have told him, not what he views as his contributions, which may indicate some uncertainty related to his sense of self in connection with the Project YES community.

Sophia gave a team-based answer when talking about her role and she used a lot of “we” language. From observational data of Sophia interacting with youth and interns at events, it is obvious that she is committed to helping support military youth. She is working on several personal goals to make her more effective at supporting the youth. She stated that
other interns could learn from her about not being stressed out over things when something does not go as expected:

I used to be very high strung and very stressed...like I would stress over the littlest things but...recently I feel like you know you can’t stress over things so this new year of the internship I try not to stress over many aspects.

This contribution is connected to one of her personal goals that she has worked on in her goal-setting discussions with me and in her interactions in her subnetwork with Catherine.

Like Lorraine, Amy describes herself as a team member and has the perspective of being part of larger team as her role in the Project YES community. She thought that interns could learn from her: “That you can be young and still hang out with older people.... That you can be in a relationship and be away from people for a long time.” Both of the contributions she mentioned are related to her personal goals of embracing diversity aspects of other people and becoming an independent professional who can balance personal and professional areas of her life. During her interview she shared that she is very much aware that she is one of the younger interns and that this internship is the first experience where she has been away from her fiancé for extended periods.

The apparent connection between the interns’ perceptions regarding their roles and their contributions to the community provide some insight as to how the interns view themselves within the Project YES community. These elements regarding their sense of self within the community have impact on their contributions to the community and interactions with other interns.
Personal and private boundaries.

The concept of setting personal and private boundaries is the second subcategory for the Sense of Self theme. This subcategory came from data shared during the interviews. Five of the participants shared concerns and thoughts about how technology blurs boundaries between personal and professional space. The interns talked about the lack of personal and private boundaries and the need for such boundaries. As discussed previously in the section about subnetworks, several interns mentioned using different technologies for personal versus professional reasons in their interactions within the Project YES community. While the breakdown was not exactly the same across all the participants, the way Lorraine differentiated her use was reflective of the overall pattern for the interns:

*When I’m interacting on a personal level I use things like Facebook and text messaging, but mainly online I guess interacting personally I only use Skype and Facebook, but interacting on a professional level we tend to use email and Wiggio and Twitter to update about events as well as our blogs.*

Some of the interns expressed a desire to keep online professional information and interactions separate from some personal and social spaces, especially concerning the use of Facebook. This topic came up with multiple interns because at the time of the interviews, we had recently created an external Facebook page for Project YES and we were considering creating an internal page that would be for interns and staff only. Some of the interns were concerned because they want to maintain some of those professional and private boundaries in how they use technology. Catherine did not want an internal Facebook page because of the perceived casual nature of Facebook:
I think it might confuse it. I like the way things are because there’s a separate place to discuss business and aspects of the internship that are more of a professional nature. And I think that Facebook is already so relaxed, to say...so I think it might change the dynamic of the planning process.

Amy would have been okay with an external page that did not require a separate account and did not link to her personal details:

If people didn’t have to create a whole other account. Like if we could just make one account for everybody and everybody have the password that’s an intern and when we write something you like have to put your name or post pictures and write who posted it. Like that kind of thing, I think it would be a lot easier just because that way people wouldn’t have to link their name and their personal life and their professional life together because it would just be one account and everyone would have it…but it’d be private, so it’d just be between all of us that we could go on and read.

Shane identified another approach that he and some other interns take regarding personal boundaries for Twitter. They maintain two Twitter accounts, one for personal use and one for Project YES use. He discussed how they often discuss Project YES in both spaces, but they share different information and different perspectives about situations in the two spaces:

One’s personal, one’s Project YES and so that’s interesting too because um what we post publically on our YES Twitter is totally different than what we post on our personal Twitters and most of the time they don’t overlap, but when they do overlap it’s always kind of juicy because something good’s going on. Like at an event...like
one that’s more... like oh this POC’s kind of unorganized on the Project YES one but then on the private ones it’s like I really want to kill this person.

The presumed degree of privacy conveyed by different technologies based on the technology itself and how it is used is another boundary issue. Sierra described the blog as feeling more private and personal than it really is:

*People are more personal in that [writing blogs] like cause they feel they’re just writing to...really writing to any and everyone like it’s almost a point when you are writing in the blog you’re not really writing to anyone but yourself, but then you’re writing to everyone. I don’t know if that makes sense but it’s really just ... a lot of people just pour out what they feel or what has happened.*

She was referring to the blog’s function as a space to discuss what happened at events and what people are learning about their own development and she saw it as a public space that felt private enough to share personal information.

Shane had a different perspective about the blog. He saw it as a space that is too public - to the point where it prevents people from addressing real issues, especially negative issues:

*I feel like a lot of times especially when it comes to the blogs and Skype where they’re so public...um... it really hinders not honest feedback, but fully honest feedback in terms of we really focus on the positive and there are times negative things happen, which were kind of either brushed underneath a rug or just left there altogether, or it was more of an email to the staff about what happened. And I feel that was a*
possibility that it allowed issues to maybe fester a little bit more than they should have than if they would have been approached immediately.

He suggested a potential solution, which would be to maintain a less public space to deal with negative issues that need to be addressed:

So definitely it’s too public in some sorts. I don’t know if it’s something that we could like have confessional time (laughing) I don’t know... that’s too crazy but something like where we could have you know a 10 minute conversation... if you could hop on Skype with them and be like hey this is what happened, let’s talk about it. ...I don’t know how you’d go about that because it could also just cause a lot of hurt feeling too. I don’t know. But sometimes it needs to get out in the open.

His comment that it would have to be managed in a way to prevent hurt feelings indicates that merely creating a private space for discussions about negative issues would not be enough. There would need to be some type of community building in order to create a sense of trust so that space becomes a safe space in addition to being a private space.

In addition to the need for boundaries regarding technology-mediated spaces, Lorraine also commented about the blurring of boundaries between personal time and professional time since her relationships with interns have both personal and professional aspects. She noted that blurring between the spaces happens in part because Project YES is what they have in common:

We Skype quite a bit. So just a quick call. Whatever we’re talking about usually lead to Project YES since that’s what we all have in common and that’s when we get to
talking about stuff….and that’s outside of planning time kind of on personal time but still talking about Project YES.

She talked about how she enjoyed the blended discussions, but indicated a general need to set boundaries around her personal time to create time that does not involve computers, including with Project YES:

For me it’s not necessarily the time it’s that I don’t want to be on the computer anymore because I’m in a distance ed program and then I work on the computer and the I do Project YES on the computer. So sometimes I’m just like I don’t even want to be on my computer. Sometimes I’m just over the computer...Sometimes I just want to go see people and talk to people cause I already don’t see people in my class.

**Interconnections/patterns of interaction.**

Interconnections/Patterns of Interaction is the third subcategory for the theme Sense of Self. The majority of data related to this subcategory is from my observations when I attended military youth events, event planning meetings, and my follow-up debriefing meetings with individual team leads and interns. This topic is an expansion on the earlier discussion of subnetworks to show how the interconnections and patterns of interaction among the interns impacts their sense of self.

Often the interconnections have a reciprocal impact on the sense of self for each of the interns involved in the interaction. One example of this type of reciprocal impact is the interconnection between Catherine and Amy. Their interaction is a pattern of mentoring where Catherine mentors Amy about logistical and facilitation elements of events and professional development areas, such as how to present herself more professionally to other
team members. The reciprocal nature is evident in that both Catherine and Amy have shared in debrief meetings and emails how this mentoring relationship benefits both of them. Amy has commented on how she feels more comfortable now being in charge of a room of youth and leading discussions since Catherine has been mentoring her. Catherine has commented on how watching Amy’s personal and professional growth has encouraged her to continue offering feedback in her role as team lead to interns who approach her for suggestions.

This relationship is helping both interns meet some of their professional development goals. One of Amy’s goals is to improve her facilitation skills, and one of Catherine’s goals is to improve her ability to tailor feedback to individuals. Both interns are getting the chance to practice those skills and get feedback from the other one. Ultimately, this interaction improves sense of self for both interns. Amy has a more positive belief in her ability to perform appropriately as an intern and Catherine has a more positive belief in her ability to coach another intern in a productive manner.

I observed similar pattern of mentoring interconnections with at least two other pairs of interns. They followed a very similar pattern of interaction. Just as it does in the formation of subnetworks, event pairings can impact patterns of interactions because the pattern of mentoring tends to start at face-to-face event, often as the result of something going “wrong” at an event, or in reaction to a staff intern asking a team lead for feedback. The mentoring then continues online through email and Skype discussion and the interns follow up during subsequent face-to-face events if they are paired together again.

Another pattern of interaction that has the potential to impact interns’ sense of self is the tendency to avoid negative patterns of interaction online. Based on data from my
observations at events and debrief meetings, there were a few instances where something negative happened when interns were together at face-to-face events and gossip kept spreading about those events. Except in a couple of situations that were mediated by the staff, the individuals concerned avoided discussing the issue online after the event. They did not continue the disagreement or to try to resolve it in an online space. Occasionally, this impacted an interns’ sense of self regarding their position in community if they felt others were judging them harshly based on rumors without having a personal, face-to-face interaction.

The only observed instances of negative online patterns of interaction are when interns on teams do not respond in a timely manner to other team members, or do not follow through on some task for their team. This sometimes creates a dialogue back and forth which leads to tension during online planning meetings. If the situation is not quickly resolved, it usually ends up with a Project YES staff member being copied on a message highlighting the issue. When this happens, one or both parties sometimes feel concerned about their reputation as an intern in how the staff views them and this can impact their sense of self in the overall community. They generally try to resolve the issue with a Project YES staff member first and then address it with their fellow interns. Overall, the majority of the “visible” negative interactions have been minor; however, this type of communication may just be hidden. The few instances where the negative issue was more serious, Project YES staff has helped mediate the situation between the concerned interns. Either way, whether it is a positive or negative interconnection, such patterns of interaction have the potential to impact the sense of self of all the interns involved in the communication.
Purpose and Values

The theme Purpose and Values relates to the interns’ beliefs in the purpose of the Project YES community and values associated with the community. The Project YES community has two primary purposes: the main purpose is to support the professional development of the interns and the second purpose is to support the leadership development of military youth to help them deal with issues associated with deployment. There are three subcategories associated with the Purpose and Values theme: What Drives Knowledge Contribution; Understanding Purpose of Community; and Communication Values/Technical Values/Work Ethic Values. The majority of the data associated with this theme came from the interviews and follow-up discussions with the interns.

What drives knowledge contribution.

The subcategory What Drives Knowledge Contribution identifies some of the more evident factors that seem to influence when and why interns share, construct, and create knowledge. This subcategory addresses the research subquestion three: When does knowledge sharing, construction, and creation occur in the online setting? This question is important because it helps determine what drives the interns’ purpose for being a contributing member of the Project YES community. Data from the interviews indicates that knowledge contribution is in part driven by needs associated with the three event phases: Planning, which occurs before the event; Implementation, which occurs during the event, and Debriefing, which occurs after the event. Based on data from their interviews and my observations during the three event phases, knowledge sharing, construction, and creation can occur at any time; however, interns tend to share, construct, and create knowledge at
predictable points throughout the event cycle. Sharing and construction occur at various times in the cycle; knowledge creation often occurs throughout the cycle depending on the context and parameters of the event. Table 4 depicts which type of knowledge contribution occurs more prominently in the different event phases.

**Table 4: Knowledge Contribution Across the Event Phases**

<table>
<thead>
<tr>
<th>Planning (Before)</th>
<th>Implementation (During)</th>
<th>Debriefing (After)</th>
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</thead>
<tbody>
<tr>
<td>Knowledge sharing</td>
<td>Knowledge construction</td>
<td>Knowledge sharing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Knowledge Creation</td>
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</table>

During the planning phase interns tend to engage primarily in knowledge sharing, which is the transmission of knowledge from one person to another (Van Aalst, 2004). This sharing generally takes place during Skype sessions when the team lead and the interns are planning the event. It may also occur through emails as the interns exchange information. Typically this knowledge is related to strategies for curriculum implementation, classroom management, and working with the military youth. During the planning Skype meetings that I observed, it was very common for interns to share knowledge about different strategies, especially if they had previously worked with the particular military unit or POC. Knowledge creation, which is the process of developing the ideas needed to sustain innovation does not always occur in this phase (Van Aalst, 2004). However knowledge creation can occur if interns have to adapt activities or brainstorm to address a new curriculum theme requested by a POC.
During the implementation phase, the interns focus on knowledge construction, which deals with problem solving and constructing understanding (Van Aalst, 2009). Since the interns are physically together during this phase, construction within an event team occurs in person and often happens when the intern are faced with a new problem they have not dealt with previously. There are many different types of problems that can arise at an event that would require the interns to engage in knowledge construction. One example that happened at an event I attended would be how to address the situation if the number of military members in the Project YES room outnumbers the military youth. This has more than once presented a unique situation for the interns and they have to work together to construct a solution that is professional and respectful in regards to the adult military members and effective in regards to the youth. The interns are problem solving and creating a unique way to address the situation. This adds to the collective knowledge of the community related to working effectively with military members and youth.

Knowledge construction sometimes occurs online during events across teams. Shane mentioned that how interns share via Twitter during events by posting videos linked to Twitter:

> You could really see how an intern would maybe change an activity around so that it would work with the group of participants...Those videos would sometimes really show oh well here’s a new way to do this activity that I would never have thought of.

This is knowledge sharing, but sometimes interns comment back and forth give suggestions about how to improve solutions. This results in knowledge construction online between events.
Although knowledge construction is often the primary type of knowledge contribution during an event, knowledge creation often occurs during an event. For example, interns may engage in knowledge creation by developing innovative ways to do new activities or strategies for engaging the youth. The interns also engage in knowledge sharing during events. The interns are often sharing knowledge about facilitation, reflection, and classroom management.

After events, the knowledge contribution focus is on knowledge sharing. The interns are debriefing and sharing what worked and did not work at events. They share often tips and new curriculum ideas during debrief Skype or Elluminate sessions or via the blog. Sierra mentioned that during debrief discussions that she “was able to learn more about Project YES and sometimes how to handle certain situations or best practices if you will...You could definitely learn about more of how other people would handle situations that you would encounter.” Lorraine explained how she shares knowledge via the blog:

*I use Wordpress (blog) to put up descriptions of the events that I go to after I've attended the event and then I put up any changes in the curriculum that I made while I was there and um...what worked and what didn’t work, so that other interns can look at it and come up with ideas and maybe use the recommendations at future events.*

**Understanding purpose of community.**

Understanding Purpose of Community is the second subcategory for the theme Purpose and Values and it relates to how well members of the community understand and buy into or support the purposes and values of the community. The Project YES community
has two principle purposes according to the requirements of the grant supporting the community. During the interviews all of the interns provided some insight into how they view the purpose of the community and their connection and buy-in to those purposes. The primary goal of the program is to support the professional development of the Project YES interns. Insight into how they viewed the professional development purpose was seen in their answers to interview question number 5 - *What have you learned by participating in the online elements of Project YES, such as the blog, the groups on Wiggio, and Twitter.* The original intent of this interview question was just to attempt to capture what types of learning was being facilitated online. However, there was a wide range of answers to this question and while the answers do not provide a complete representation of the interns’ perspectives about the community’s purposes, their answers do reflect the level of professional development activities they are involved in as part of the community.

The levels of the professional development purpose can be seen as high, medium, and low. A high level of professional development would be when an intern is consciously learning professional skills and expresses awareness of how it relates to career preparation or further professional development. A medium level would be when an intern is learning and practicing logistical processes and skills. A low level would be when an intern is learning basic concepts about a process or skill. I included the answers to interview question number five in this part of the analysis, and also any discussion of professional development during any part of the interview. The secondary goal is to provide support for military youth through leadership development curriculum that teaches skills to assist in dealing with deployment issues. The interns were not specifically asked about the purpose of supporting military
youth, but some of them demonstrated awareness of and commitment to that purpose during the interview.

Catherine and Sierra exhibit a high level of awareness in both areas of purpose. Catherine relates what she’s learned to career development and future positions. One area she describes is professional communication:

I’ve learned a lot as far as communicating with others through technology. But, I’ve learned how to do that in a professional manner and I never really sent emails to somebody other than a close friend. So it was really helpful to learn how to phrase things in a professional way, and how to communicate clearly in written speech.

Another area is about learning how to learn technological skills:

I’ve learned all these different (technological) programs, but the most beneficial is learning how to navigate a new program because as technology changes I’ll be able to adapt better hopefully, to new technology. That’s going to be essential for my work.

Sierra notes that regarding technologies “Project YES kind of opened my mind up in how I can use this in my personal life and how I can use this in my other jobs. I’ve recommended using Elluminate to my networks.”

Catherine also passionately mentions the purpose of working with youth during her interview:

I love that aspect of the internship. I really love working with the youth and I think that when they work with me they can pick up on that excitement. Just to you know kind of make people remember why we’re there and…it helps give it a new
Lorraine demonstrates a medium level of awareness relating to professional development. She described learning about technology in general and new technology skills:

I’ve learned a lot. I mean Twitter first of all I didn’t even know how to tweet or I didn’t know the character limits. I’ve just learned a lot about the technology in general and where the internet has gone. From Wiggio I’m slowly still learning how to utilize all that it does have to offer. For example, I just recently started using the to do list.

She does not specifically mention the youth development purpose of the community. However, she does show awareness of it in that she talks about bringing in new activities to use with the youth, although she focuses on the logistical aspects of implementing the activities. She does not connect it to the youth support aspect of why Project YES works with military youth.

Shane also demonstrates low level of awareness relating to the professional development purpose. He acknowledges the purpose, but does not get into specific details about how it impacts him: “We have a nice little internship that’s geared toward professional development.” He mentions learning more about Project YES and how to handle certain situations, but he does not tie it to an area of professional development. He notes that part of why he does multiple monthly events is because he likes to travel. Travel is one area of professional development, but he does not give details.
He does the same thing regarding the youth development purpose. He acknowledges it without going into specifics:

*I like to travel. I like what I do within the facilitation process itself and um the need is so great we can volunteer for more events than we have to, so I’m usually volunteering for two or three more per month.*

Amy demonstrates a low level of awareness about the professional development purpose. She describes learning how to use websites and technologies on a basic logistical level. She also mentions learning better time management skills about her personal life. She does not mention anything about the youth development purpose.

Sophia exhibits a low level of awareness about professional development and a high level of awareness about the youth development purpose. She mentions learning general information about technology but does not tie it to any professional development goals. However, she is extremely passionate about the youth development purpose. She tells a story of staying in contact with a military youth after an event and helping her make career choices for after high school. She describes the level of commitment she feels towards the youth:

*It’s not just your job’s done after the event when you get to go home and do your own thing. It’s like how are you going to make those connections with these youth for a while, or maybe for a lifetime. How are you going to be able to influence them continue to influence them and not just influence them for that event and then forget about them and pretend they don’t exist. You know because they did exist and obviously they impacted my life. I don’t know about the other interns but I try to make*
connections with at least one kid at each of the events and they make an impact in my life.

The information and implications from the interviews are interesting and are similar to indications about the interns’ understanding and buy-in to the community’s purposes that I observed during planning and debrief meetings during the study.

**Values – communication, technical, work ethic.**

The subcategory of values for communication, technical, and work ethics relates to how the interns interact with each other in the Project YES community, especially in the online aspects of the community. Based on the data from the interview, the values of communication, technology, and work ethic tend to overlap for the interns depending on how they view their purpose and task. Much of the communication in Project YES is done online: therefore, it is important to understand how technology is used and valued in order to facilitate and participate in the community successfully. Availability of technology, personal preference about specific technologies and technical functions, and task-related objectives are three factors that impact what technology is used. Certain technologies are commonly available and used within the norms of the Project YES community (See Table 5). Certain technologies are used more at different times during the event planning and implementation process. The technologies used during the planning stage help facilitate group communication and information sharing. During the implementation phase more social media technology is used to allow interns to share what is happening at their events. During the debriefing stage, the technology supports report-out and documentation collection.

The expectation is that interns will use some combination of those technologies
Table 5: Technologies Used in Project YES

<table>
<thead>
<tr>
<th>Planning (Before)</th>
<th>Implementation (During)</th>
<th>Debriefing (After)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wiggio</td>
<td>Twitter</td>
<td>Blog</td>
</tr>
<tr>
<td></td>
<td>Post about travel and new activities</td>
<td>Reflection post</td>
</tr>
<tr>
<td>Skype</td>
<td>Wordpress curriculum site</td>
<td>Wiggio</td>
</tr>
<tr>
<td></td>
<td>Look up curriculum activities &amp; directions</td>
<td>After action report &amp; event closeout documentation</td>
</tr>
<tr>
<td>Email</td>
<td>Facebook</td>
<td>Photobucket</td>
</tr>
<tr>
<td></td>
<td>Post status updates and travel photos of event</td>
<td>Post event pictures and videos</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Email</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Final closeout with team and Project YES feedback</td>
</tr>
</tbody>
</table>

depending on the requirements from the Project YES staff and other team members.

However, the technology does not always provide everything in the most beneficial, convenient format for the community’s purpose and some people have different perspectives about the usefulness and value of the various technologies. In response to interview question 3. Which technology has been the most beneficial? and question 4. Which technology has been the least beneficial?, the interns shared their perspectives about which technologies they found most useful (See Table 6).
There were some technical and communication values that impacted why the interns thought some technologies were more beneficial than others. Two of the technological values that they liked were: expediency – they want technology to make happen quickly; efficiency – they want technology to work and help them do their work. These values were identified from positive and negative comments the interns made about the different technologies. The interns liked the most beneficial technologies mainly due to communication aspects, such as they provided face-to-face chats, and made it convenient to chat with large groups.

Lorraine liked the group facilitation aspect of Elluminate:

> I’ve done a lot of debriefs especially in larger session. So Elluminate has kind of allowed us to have more people on a call and be able to interact better in my personal opinion. We can ask questions and see everyone’s response and we don’t have to wait. With the green check and red x we can know everyone’s response to a question as opposed to just one person answering a question.
In some cases, the reason some technology was viewed as least beneficial was because it was viewed as being redundant. Catherine thought Twitter was not beneficial: “a lot of the info we gain from Twitter can be utilized in other types of technology such as the blogs.” Some of the other interns did not like the blogs, Twitter and Wiggio because they did not take time to use it, or did not understand how to use it. Amy did not use the blog because she "always forget to do it...I’m not very good at it ...I don’t write blogs, never have wrote blogs ... I guess if I remember to use it, it’s beneficial because then everyone can see what the event was like.”

Regarding communication values, the interns prefer technology that resembles a face-to-face environment as much as possible and technology that makes working in groups easier and productive. Shane preferred Skype because of its resemblance to a face-to-face setting:

*We use Skype to facilitate our meetings during planning and follow up and if we’re having any issues we can Skype each other. I think that’s more beneficial than a phone call because with Skype, you can see people face-to-face. So, um...I’m a very visual person anyway and I think body language is really important so using the visual aspect, you can kind of get some reading from body language.*

Amy agreed that the face-to-face aspect of Skype was nice, but she wanted to have that option free for group Skype calls as well:

*It’d be nice to see other people’s faces on Skype. Um...to get the emotional part. A lot of times you can get some communication ideas of how somebody is feeling and that type of thing just from their voice, but it’d be really nice to see their face. Face-to-face communication, which we haven’t found a way or technology hasn’t really*
enabled it without costing money, having to pay a fee and stuff like that. So if Skype would let you do conference calls with everybody’s video.

The interns also expressed a preference to use technology that combines functions when possible, so they can accomplish more at one site without needing to use multiple technologies. Catherine mentioned that she liked Wiggio because it did combine features: “Wiggio is a nice way to organize within the team doing the logistics all in one step. But it also is a great way to submit all your paperwork in one location.” She also suggested that other technologies such as Twitter and Facebook could be combined:

For me, the least beneficial would probably be the Twitter account. Although it’s helpful to unite the group, um…it’s kind of quick bursts. And I think its role is more as far as like team dynamics. It kind of helps unify the team. I think that a lot of the information we gain from Twitter can be utilized in other types of technologies such as blogs.

Overall, most of the interns were willing to use technology as long as it had a purpose and combined features where possible. Sierra stressed the importance of every technology having a purpose:

I’m open and willing to use any technology and I don’t want to speak on behalf of the interns but I have a confident feeling that they’re the same as well, as long as it has a purpose. If there’s no purpose to using it, if it’s just oh because we need to try it out, then maybe we should do that in specific subgroups and like experiment with it….I think all the technology that we are using at the current moment has a purpose. If there was something we could get rid of, but it’s probably going to be a major blow, I
think I would get rid of Skype and use Elluminate a lot more. But I understand the significance and Skype and why we need to use it due to it’s convenience, but I think if you wanted to get more on a professional development path then I think Elluminate all the way cause it has the same features and better.

In spite of most interns being willing to use the technology, they did express some challenges that sometimes get in the way of using technology, which results in less communication.

Some interns have perceptions of limited expertise when it comes to technology. Catherine said: “I am technically challenged.” Some interns express a feeling of technology overload. Shane described being overwhelmed with social media: “Personally, I feel like I’m overwhelmed with social media right now that I don’t have time to contribute, so it’s kind of like if I’m not going to do it really good, then I probably shouldn’t be up there.”

Although they agreed there are challenges, the interns stressed that regardless of the technology, all the interns need to display appropriate work ethic values and be accountable for their roles and responsibilities in the community. Lorraine and Sierra noted that technology help with accountability. Sierra pointed out that email can serve as documentation if someone is not fulfilling their requirements:

Phone call cannot prove anything except that you called the number on a certain date with an email at least you have a backup saying “hey, I already told this person that they need to get this in on time, they didn’t well now they suffer the consequence and I have the documentation to prove it, so that’s where technology is beneficial, but I mean it’s really hard again, it’s up to that person. It’s their value of what they believe in this program if they’re only in it to travel and just do the bare minimum no matter
how much if you write them a letter, give them a call, do all the technology and they
don’t respond, well that’s just them and how much they care about the program.

Lorraine noted that sometimes accountability can also be about setting priorities:

I don’t think it’s necessarily the technology that hinders it. I think all the resources
are there, but sometimes my own self-discipline, or making myself look at something
online might be what actually hinders me learning I guess as much as I possibly
could. I don’t take the time to go through [blogs] and read them all. And so that’s
why it doesn’t serve as big of a purpose as it could for me as if I did really go through
and read and gather all that information… I read the tweets cause they’re short and it
is so nice to be updated by the other events.

Lorraine explained how she wanted to read the blogs, but it was about being overwhelmed
and having other more pressing things to do. She made the distinction between doing what
was required and had to be done right away, such as event planning, and doing was offered
and would be nice, but not urgent. Sierra described how the efforts someone puts in impacts
the results they and the program will get out of it:

It’s up to that person. It’s their values of what they believe in this program if they’re
only in it to travel and just do the bare minimum no matter how much if you write
them a letter, give them a call, do technology, and they don’t respond well, that’s just
them and how they care about the program. I mean it will show um…and you know
the interns that put in that time and effort…I mean you’ve seen the various extremes
and dynamics of the interns. I mean you have people that contact you everyday then
you have people that just never contact you unless they’re in a need of something…I
think it’s what the person wants the take away. People are going to see and take away
different things depending on what their needs are at that moment.

Summary

The discussion of the three themes: Perceptions of Place; Sense of Self; and Purpose
and Values and their subcategories has laid the groundwork to look at the intersection of
the three themes in relation to the primary research question: To what extent do
participants of an educational online learning community in a non-formal setting engage in
sharing, constructing, and creating knowledge? Sierra’s observation that “People are going
to see and take away different things depending on what their needs are at that moment,” is
an important one as we look at how to make a successful online learning community where
the participants and the “clients” are supported successfully. In Chapter 5, I examine the
research questions and findings from the study through the lens of the literature on social
constructionism, knowledge sharing, constructing, creating; and communities of practice.
CHAPTER 5: DISCUSSION AND IMPLICATIONS

This qualitative case study addresses the question: *To what extent do participants of an educational online learning community in a non-formal setting engage in sharing, constructing, and creating knowledge?* The participants are a group of six college interns who are members of the Project YES program. Project YES is a non-formal, online learning community where interns gain professional development skills as they plan and facilitate leadership development events with military youth around the country. Much of the training and interaction within the Project YES community occurs online. As discussed in Chapter 2, the research question is of interest due to the growing need for professional development training in non-formal online communities due to issues such as geographic challenges and budget constraints (Borden & Perkins, 2006; McCann, 2007; Radhakrishna, 2001; Senyurekli, Dworkin, & Dickinson, 2006). Previous research has been conducted about training in formal, academic, online learning communities related to teacher education (Duncan-Howell, 2010; Yang & Liu, 2004) and healthcare education (Bryan, 2009; Reilly, 2009; Richards, 2008). However, based on a review of the literature, there appears to be very little research about training conducted within a non-formal, online learning environment.

In order to address the topic of professional development training in a non-formal, online learning environment, I collected data on how participants engage in sharing, constructing, and creating knowledge and the resulting connections to professional development. As discussed in Chapter 4, three themes - Perceptions of Place, Sense of Self, and Purpose and Values - emerged during my analysis of data from interviews with the
participants, data from their online postings, emails, participation in online meetings, and observations from their participation in military youth. The areas of literature used in this analysis were Social Constructionism; Knowledge Sharing, Construction, and Creation; Communities of Practice; and Professional Development. The areas of literature are woven throughout the following discussion of how the findings related to the three themes connect to the primary research question and the four subquestions, which are:

- What patterns of interaction emerge among the interns that foster knowledge sharing, construction, and creation?
- How do the technology tools facilitate the various modes of knowledge contribution?
- When does knowledge sharing, construction, and creation occur in the online setting?
- What impact does the knowledge sharing, construction, and creation process have on the professional development goals of the interns?

**Overview and Significance of Findings**

There are four primary findings that emerged from the data analysis: 1) Convergence of the three themes impacted the extent of the interns’ knowledge contribution; 2) connections between high/medium/low levels of awareness in the three theme areas related to professional development growth; 3) existence of subnetworks created internal and external knowledge flow networks; and 4) perception of technology skills and values was a background factor that influenced involvement in the community. The findings are significant due to their potential to enhance professional development and training within non-formal learning environments. Consequently, the significance of the findings has
implications both for practice and future research, which I will discuss after highlighting the significance of the findings and connecting them to the literature.

**Convergence of three themes impacts the extent of the interns’ knowledge contribution.**

The convergence between themes of perception of place, sense of self, and purpose and values impacted the extent to which each intern contributed to sharing, constructing, and creating knowledge within the Project YES community. This finding addressed the primary research question: *To what extent do participants of an educational online learning community in a non-formal setting engage in sharing, constructing, and creating knowledge?*

Based on the data analysis, the level of contribution from each can be characterized along a continuum as high, medium, and low. Those interns exhibiting the highest levels of knowledge contribution also exhibited a strong perception of place, a strong sense of self, and a strong belief in the purpose and values of the community. (See Figure 11.)
In my data analysis, I assigned each of the three areas high, medium, and low levels, with the high level being a strong indication. The high, medium, and low levels of awareness are based on the viewpoints and perceptions shared by interns in their interviews. High levels of awareness in all three themes tended to focus on elements at a programmatic level; medium levels tended to focus on event or activity based elements; and low levels tended to focus on internal, personal elements. For example, regarding sense of self, an intern with a high level of awareness would exhibit qualities of a strong sense of self in relation to the community. Their sense of self would include a team-based view of their connection to the community that goes beyond just personal concerns. They would see themself as being...
involved in at more programmatic level where they help the community develop and support the growth of other interns. Based on the data shared in Chapter 4 from the interviews, both Sierra and Catherine exhibit a high sense of self. An intern with a medium sense of self would focus on how they interact with learning and improving their performance related to logistics of events and programs. They see their involvement at the level of individual events, but not a higher, programmatic level. Lorraine exhibited a medium sense of self in her interviews. Interns with a low sense of self would focus only on personal aspects of role and event-related activities, or they would demonstrate uncertainty or lack of awareness of how they actions help others. Shane also focused on the logistics level; and, he exhibited a medium sense of self because sometimes he could articulate ways he contributed to the community and sometimes he seemed to be doubtful of how his role impacted the community. Amy and Sophia exhibited a low sense of self in their interviews. Specific details from the interviews regarding all the interns and their levels of awareness in the three themes was discussed in Chapter 4.

Interns who exhibit a high level of awareness in all three themes have a high level of knowledge contribution. The ranking level of knowledge contribution was based on details from the subnetworks and the type of knowledge the interns saw themselves contributing. If an intern could be deemed a knowledge provider in their subnetwork and worked with other interns to share, create, and construct knowledge, they function at the highest level of knowledge contribution within the community. If an intern has a mix of high and medium levels of awareness in the three themes and shares knowledge with other interns, but does not consistently engage in knowledge creation or construction, they function at a medium level
of knowledge contribution. If an intern has a mix of high, medium, or low levels of awareness in the three areas, they function at a low level of knowledge contribution. Even with a high level in one area, if an intern has a low level in another area it appears to impact their contribution level overall and place them at a low level of knowledge contribution in the overall way they interact within their subnetworks. The interns at low levels of knowledge contribution tend to be knowledge seekers in their subnetworks and often connect with the interns who are high knowledge contributors as they seek advice and feedback. The interns who are low knowledge contributors may rarely share information, but rarely, if ever, engage in knowledge creation or construction. Table 7 depicts the levels of awareness of the three themes. It also includes a column labeled “Conclusion,” which illustrates my overall analysis of the intern’s level of knowledge contribution to the online learning community.

**Table 7: Levels of Awareness and Knowledge Contribution**

<table>
<thead>
<tr>
<th>Intern</th>
<th>Perception of Place</th>
<th>Sense of Self</th>
<th>Purpose &amp; Values</th>
<th>Knowledge Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catherine</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Sierra</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Lorraine</td>
<td>High</td>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>Shane</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Amy</td>
<td>High</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Sophia</td>
<td>High</td>
<td>Low</td>
<td>High /Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

The participants who are functioning at the high level of knowledge contribution are often operating at a programmatic level of knowledge construction. They are concerned with addressing issues within the community and observing and reacting to situations that are happening at events and among other interns. They are consciously working to increase
understanding of the patterns and dynamics within the group that impact effectiveness at events and the personal and professional growth of other interns. Much of their involvement at this level is futuristic because it deals with how we can improve the internship and enhance the military youths’ experiences at events. This type of engagement is what Van Aalst (2009) defines as knowledge construction, which is “the processes by which students solve problems and construct understanding of concepts, phenomena, and situations, considered within cognitive psychology,” (p. 261-262).

The interns who are engaged at the medium level of knowledge contribution operate primarily within Van Aalst’s (2009) mode of knowledge creation, which he defines as “the process of developing the ideas needed to sustain innovation” (p. 261-262). These interns who are at the medium level often focus on ideas of how to enhance activities at events, how to implement better classroom management strategies, and how to interact more effectively with the military youth. The interns who operate at a low level of knowledge contribution are generally engaged in knowledge sharing, which Van Aalst defines as the “transmission of knowledge between people” (p. 260). They often seek knowledge from the interns who are functioning at the high level of knowledge contribution, but together they engage in transmission of knowledge. The interns may move back and forth between the three modes of knowledge contribution, but they focus more at those designated modes when they are operating in their primary level of knowledge contribution. This entire method of constructing, creating, and sharing knowledge around a specific purpose is an example of “building knowledge structures,” which Papert (1991) depicts as a characteristic of social
constructionism. It also connects to two of the tenets of social constructionism presented by Lock and Strong (2010). One tenet states:

People are self-defining and socially constructed participants in their shared life.

There are no pre-defined entities within them that objective methods can seek to delineate but, rather, our ways of making sense to each other are constructed to yield quite different ways of being selves (p. 6).

This tenet of social constructionism corresponds to the way interns’ sense of self in the Project YES community is both self-defined by their own actions linked to their levels of interactions, and they are also socially constructed by the way the other interns’ perspectives and interactions with them. For example, some of the interns in the interviews presented one view how they saw their role in the Project YES community – this was part of how they self-defined themself as a participant in the community. However, another interns when talking about their subnetworks may present a different perspective about one of their peers. This is an example of how the interns are also socially constructed within the community. Both the self-defined and the socially constructed viewpoints may combine to impact how the intern is viewed by others within the community, which may in turn impact the role and interactions of the intern.

The other relevant social constructionism tenet from Lock and Strong is:

The adoption of a critical perspective to the topics at hand, that is, a concern with revealing the operations of the social world, and the political apportioning of power that is often accomplished unawares, so as to change these operations and replace them with something that is more just (p.6).
This tenet is relevant because the interns who are operating at the highest level of knowledge contribution have a type of power that they may not even realize. That power comes from the fact that other interns are approaching them seeking knowledge. So the highest level of knowledge contributors have the potential to shape perspectives and actions of other interns, based on the knowledge they disseminate. As a result, they have potential power to shape how the program is perceived because the interns they are communicating with may act upon the knowledge they have received in ways that reflect on the larger Project YES community.

**Connections between high/medium/low levels of awareness in the three theme areas relate to professional development growth.**

The levels of awareness in the three theme areas and the overall level of knowledge contribution seem to connect to the areas of professional development the interns are addressing or would benefit from addressing. For example, Catherina and Sierra are both high in all aspects that I analyzed, which means they are more focused on determining program enhancements and supporting other interns. Their professional development goals dealt with learning workplace related, systemic processes and supervisory strategies to use with leading different types of people in a professional setting. Their professional goals align with their high level of perceptions and how they interact in the community. They are able to focus on learning processes that help strengthen and grow a program, including focusing outward on building partner relationships that will strengthen the Project YES community.

Overall, I rated Lorraine at a medium level across the board. She is focusing on learning logistical aspects of event implementation and facilitation techniques. Her professional development goals align with this. One of her areas of professional development
is learning how to manage various aspects of interacting with clients to plan events. Amy is an example of an intern with a low level of knowledge contribution, which is in part due to her low sense of self within the community. She came to Project YES with a great deal of personal concerns and uncertainties about her ability to perform effectively in the community. She has made great progress in addressing those areas because she consciously chose to focus her professional development goals on enhancing personal aspects. Some of the aspects she is working on include: interpersonal communication, especially being aware of how others perceive her; expanding her cultural awareness to encompass more experiences outside of her previous background, and learning where the limits are for personal and professional boundaries in how she shares information with military youth and other interns. Her focus on personal aspects of professional development has been beneficial for her, which she shares in the interview. The significance of this finding is that due to the reciprocal nature of the relationship between the levels or awareness, knowledge contribution and professional development, it would be easier to help interns identify and enhance areas of professional development that will benefit them individually.

**Existence of internal and external knowledge flow networks.**

This finding reveals that distinct patterns exist that show how knowledge flows within the community as well as how some knowledge is brought into and disseminated out of the community. Some of the interns have emerged as knowledge providers within internal subnetworks– so that if other interns have questions, they will go to that person. Often the knowledge providers have also been identified as sort of subject specific experts. For example, some interns are viewed as being experts in the reflection model we use and others
are viewed as experts in technology. Based on the subnetworks of the participants, usually those interns who have emerged as knowledge providers have more people coming to them for information. Some of the other interns in the study were knowledge seekers. No one would ask them questions but they would go seek out information from other interns. In Figure 12, which is based on information about the participants’ internal subnetworks,

![Knowledge Providers and Knowledge Seekers](image)

*Figure 12: Knowledge Providers and Knowledge Seekers*

the largest dots represent the knowledge providers who are the highest knowledge contributors, the medium dots are the medium knowledge contributors, and the smallest dots are the lowest contributors. The lowest contributors tend to be the knowledge seekers. The significance of internal subnetworks is due to the way they help shape how knowledge and information is created, constructed, and shared throughout the community. They provide a
key to understanding how to tap into the knowledge networks and gather and disseminate knowledge and training more effectively.

By creating and existing within the parameters of these subnetworks, the interns are engaging in a social constructionist approach to building knowledge structures within their Project YES community. The communication patterns that are evident in the subnetworks and the subsequent roles that emerge of knowledge provider and knowledge seeker are evocative

**Perception of technology skills and values is a background factor that influences involvement in the community.**

This finding reveals that although technology is not the driving factor of how and why interns participate in the community, it does influence the interns’ levels of involvement in the community. Part of the reason for technology’s influence is due to the geographic challenges that face the interns and staff since the interns are from states around the country. As discussed in Chapter 4, some of the interns see technology as an element that helps them transcend geographic barriers. Part of being a virtual learning community is overcoming the geographical complexities and using technology to accomplish learning objectives (Chen, Chen, and Kinshuk, 2009). The interns tend to have a preference for technology, like Skype or Elluminate, which more closely resembles face-to-face setting and helps with the geographic barriers. However, many of the participants also view technology as a barrier to authentic communication because it does not completely replicate elements of face-to-face communication.
Overall, the interns noted that learning technical skills was a professional development area they are enhancing by being an intern. Some of they noted that technical skills was not a professional development skill they intentionally expected to develop as part of their involvement with the Project YES community. Learning skills unintentionally or as a byproduct of being a member of the community is a common aspect of a community of practice (Wenger, 2006). While the majority of the interns interviewed appreciate learning new technical skills, they do not wish to learn technology for the sake of learning technology. They prefer that multiple technologies be combined if possible and that all technology be used because it has a specific purpose within the community. Their use of the technology appears to be driven by the tasks they want to accomplish at different phases through the event planning and implementation cycle.

Although the interns expressed personal preferences about specific technologies and how they should be used within the Project YES community, some of them stressed that the technology is not really the issue impacting whether or not people participate in the community. Instead, they noted that people’s individual work ethic and their commitment to the purposes and values of the community are what drives their involvement. This finding is significant because it demonstrates how technology is integrated into all three of the theme areas that impact the extent of knowledge contribution. This type of technology integration in broad and deep ways into the regular facets of the community is common to virtual learning communities and can change how communities engage with each other (Wenger, White, and Smith, 2009).
Implications for Practice

The four primary findings from this case study are relevant to future plans of action for the Project YES community and are also of potential benefit to other non-formal, youth development communities that have a focus on professional development. Applying lessons learned from this case study may enhance the processes that interns use to share, create, and construct knowledge, which could lead to higher levels of knowledge contribution by more interns. It could also be beneficial to implement structured, visible methods of identifying subnetworks and enhancing levels of awareness in the three theme areas. Both of these changes could lead to more significant professional development for the interns. However, since much of the community building and knowledge contribution occurs online, the professional development and knowledge contribution must continue to be supported through integration of effective technology in order to enable interns to succeed and progress. Therefore, it will be important to continue assessing the interns’ perceptions and patterns of use regarding technology, and ensure that the most suitable technology is incorporated.

Convergence of the three themes impacts the extent of the interns’ knowledge contribution.

Given that we have interns joining the program with various levels of experience, it would be highly unlikely for all of the interns to function at a high level of knowledge contribution. However, due to the expansion of the program and the need for ongoing training with all interns, it will be crucial for enough interns to function at a high level of knowledge contribution so that they can support the Project YES staffs’ training efforts. The Project YES staff would benefit from determining the knowledge contributions levels of all
the interns in the program. This information, combined with the information about knowledge providers and knowledge seekers in the internal subnetworks, would help the staff ascertain which interns may already be functioning as informal trainers. Once those interns are identified, the staff can support them in their role as peer mentors. Due to their more frequent interactions with the other interns, the peer mentors would be able to gather information that could help the staff determine training topic areas that need to be addressed with individual interns, as well as with large group training sessions. The staff may also be able to identify which interns are almost ready to step up and function at a high level of knowledge contribution. If they are interested in serving as a team lead or a peer mentor, the staff can help them become prepared to do so effectively. The staff would need to make sure these roles of increasing responsibility dovetail with the professional development trajectory of the interns and that the associated goals and objectives of the roles relate to transferrable career training aspects for the interns.

**Connections between high/medium/low levels of awareness in the three theme areas relate to professional development growth.**

The Project YES interns in the study fell at all three levels of the continuum of high, medium, and low for the three areas. The reciprocal connection between professional development areas and the interns’ levels of awareness in the three theme areas would be useful to share with the all the study participants. It would also be useful to identify these connections for interns who did not participate in the study. Being aware of these connections could help the interns as they establish their professional development goals, and
in turn their goals could help them identify ways to become more invested in the three areas if they want to be more involved in the community.

We have established a culture of ongoing, constructive feedback where interns critique themselves, and critique and receive feedback from other interns and the staff. Making the three areas visible in the community and helping the interns identify their levels of awareness in the three areas could make the current feedback process more purposeful. It would allow for interns and staff to connect feedback more strongly with professional development goals and associate the goals more strongly with the interns’ practice in the Project YES community. The staff already encourages the interns to set relevant and real-world professional development goals that will help prepare them for their future career and help them be more effective interns. Knowing the levels of awareness for each intern could help staff and peer mentors give more tailored feedback related to professional development goals.

A similar process could be used effectively by other youth development organizations to strengthen their professional development processes. Their levels of awareness would need to be associated with thematic areas related to their own community’s purpose and objective. However, the same type of visible system of levels could be implemented that would connect with professional development goals. Depending on the community’s purpose, the goals may only be connected to internal metrics of effective program implementation, or if part of the purpose is career development for their participants, the goals and levels of awareness could connect to transferrable skills that are useful inside and outside of the community.
Existence of subnetworks that create internal and external knowledge flow networks.

Project YES has recently begun its third year and has fortunately been able to expand. This has created new opportunities and new challenges. The new opportunities are very exciting, but the expansion has created some unique challenges. The number of interns has increased and to date there have been more events requests than previously, which makes it increasingly difficult for the Project YES staff to attend events with all the interns. Previously, the training coordinator went out on every new intern’s first event and worked individually with each person during his or her first few months. Currently, the combination of the number of interns and the number and timing of events makes the model of attending each intern’s first event impossible to maintain. However, it is very important that all interns feel supported and receive ongoing training and feedback about their performance and professional development goals.

Becoming aware of and supporting the internal subnetworks like the ones discussed in Chapter 4 could promote a more effective system of peer mentoring and training among the interns that will help the Project YES staff connect with all the interns as the program grows. Some of the returning interns have begun to help support and informally train the new interns. The Project YES staff is aware that this informal training is happening and encourages it. However, there is no official support system to help the returning interns in their training endeavors. Also, there is no way for the staff to gather information about which interns are connecting. The data analysis in this study identified strong subnetworks are forming in an ad hoc manner where some interns seek knowledge and other interns provide
knowledge around training and professional development areas. Becoming more aware of these networks and tapping into them has the potential to assist staff with training and information dissemination within the community.

If staff are aware of how the subnetworks are connected and the different roles of each intern within the networks, they can support the ongoing peer-to-peer training and mentoring more effectively. Since they cannot be at every event with new interns, the staff can get feedback about new interns’ progress and any concerns about areas of improvement by talking with the interns who are serving as peer mentors. This information can inform any discussions they may have with new interns. The staff can also provide support to the interns serving as mentors by discussing appropriate strategies for providing feedback.

Understanding how the subnetworks function can also help staff identify which interns are “experts” in certain areas. In the interviews some of the “knowledge-seeker” interns discussed how they approach different interns for specific information. If the staff knows which interns are experts in specific areas, they can help connect interns seeking specific knowledge to peers who can help them. It would be important to make this process visible within the community so both returning and new interns feel more supported by the staff. Visibility of the process will also help all interns realize the staff may be discussing their performance with other interns in order to help support them more effectively, but that it is not a secretive or spying type of process. It would be important to have a system in place that will allow the staff to identify the subnetworks and also to help the interns see their own subnetwork.
Another benefit of becoming aware of the subnetworks and the roles will come from identifying the knowledge providers or knowledge keepers within the community. The interns, such as those with the larger dots in Figure 12 can help push out new information to all the interns. It is often hard to train all the interns on a new curriculum, or a new process. Currently, the staff uses multiple avenues to disseminate information, including email, synchronous online sessions, Skype calls, etc. However, it is difficult to ensure that every intern actually looks at the information and understands it. Tapping into the internal subnetworks and utilizing the help of the knowledge providers could be an additional, more personal, way to disseminate new information. If the staff makes sure the knowledge providers understand new information and they know which interns are connected to those knowledge providers subnetworks, it could decrease the amount of individualized follow-up the staff is often required to do when interns have missed certain information. The knowledge providers could assist with sending the information to the interns in their subnetworks. Staff could remain available to anyone who has questions, but would be able to focus on connecting with any interns who may not be fully engraed in internal subnetworks.

As the training coordinator, I am already using the information from this study about the internal subnetworks. I am beginning to implement training by looking at how the interns are seeking knowledge. This is helping me train in an ongoing way without seeing everyone in person. I am able to connect people in informal mentoring relationships.

Based on information from the interviews and observation data, it seems that part of why the subnetworks function well is due to the “organic” way they have formed. At one
point during the second year of the program, the staff presented the idea of assigning certain experienced interns to be peer mentors to specific interns. The interns pushed back strongly against this idea because, for a variety of reasons, they did not want to be assigned to specific people. The staff decided not to assign specific mentors, but the interviews demonstrate that similar peer mentor relationships have formed to some extent, at least with a subsection of the interns. Therefore, while the staff could benefit from tapping into the networks, it would be important to allow the subnetworks to continue forming organically that way it keeps the authenticity that would be lost if the mentors were assigned. However, it may be good to establish some formal support structures for the interns serving as knowledge providers and peer mentors. I brought this up in a recent meeting with four of the most experienced interns who provide feedback to the staff on a programmatic level. Two of those interns were participants in the study. All four of the interns agreed that it would be beneficial to have some type of support structures, which would be facilitated by Project YES staff, in place for the interns who are functioning as peer mentors.

It would also be potentially beneficial for the Project YES community to tap into the external networks and to structure those as bi-directional relationships. As depicted in Figure 10 in Chapter 4, the interns gave examples of how they sometimes bring knowledge into the community from outside sources and how they disseminate knowledge out of the community to other external organizations and individuals. However, if those relationships became bi-directional, as depicted in Figure 13, instead of unidirectional, there may be a potential increase in knowledge sharing, constructing, and creation with external partners outside of the community.
Perception of technology skills and values is a background factor that influences involvement in the community.

Given the geographic diversity among the interns and the financial and time constraints which make it infeasible to conduct many face-to-face trainings, it is extremely important for Project YES staff to pay attention to which technology is being used effectively by the interns and why they prefer specific technologies over others. Implementing the interns’ recommendations from the study regarding streamlining technology could help decrease the amount of time Project YES staff and interns spend maintaining online connections and updating information in different places. Other beneficial suggestions that surfaced during the interviews are asking the interns what form of technology they prefer to
use for general communication and then accommodating that within reason. The staff and other interns cannot contact everyone in a different way for the same message, but it would be helpful to know the intern’s preferences if staff members or team leads needed to reach them. Currently, we rely on email and Wiggio announcements, but several interns mentioned preferring other methods, such as texts or Facebook posts. For some of our communication, it will be more successful to tap into the technologies they are already using and use those technologies the same way they do.

It will also be beneficial to poll all of the interns about which aspects of technology they value. The participants in the study valued aspects of technology that resemble face-to-face meetings, and elements that increase productivity, speed, and efficiency. Information about the technological values held by the intern, combined with information about the technologies they use for certain tasks during the event cycle, will be useful for the Project YES staff as we make decisions about which technologies to use. For example, one impact this study has already had is the decision we have made not to incorporate an internal Facebook page. This was due to the discussions represented in Chapter 4 with the participants about the boundaries between personal and professional online spaces.

**Recommendations for Future Research**

This study highlighted the possibility for several areas of additional study. There is a great deal that can be learned within the Project YES community, as well as with external, non-formal, youth development communities. One way to extend the study within the Project YES community is to consider the impacts on the knowledge contributions and the
subnetworks as changes occur within the community. In writing about online learning communities, Laghos (2010) notes that in order to maintain growth within a community and ensure that it continues to evolve, it is important to observe interactions of the participants and how the community changes over time. Several factors create change within the Project YES community. Major changes occur when a new cohort of interns enters the community and when interns leave the community. It would be interesting to document the shifts in subnetworks as the makeup of the participants shift with people entering and leaving.

When interns take on new roles within the community it creates another type of change that may shift the dynamics of the subnetworks and levels of knowledge contribution. A research question might be to examine what happens when interns become team leads. Once they settle into their role as team lead, does their level of knowledge contribution change? Additional questions would be what happens when levels of awareness in one area for an intern increases or decreases? Under what circumstances do the levels change? What is the subsequent ripple effect, if any, within the community’s subnetworks? Another related area of study would be whether changes in one intern’s levels of awareness have an impact on another intern’s levels of awareness. For example, if intern A is selected for team lead training, but intern B who wanted to become team lead is not, does that impact intern B’s sense of self and perceptions about his or her role within the community? Also, if intern C and D are in the same subnetwork, and intern C gains as high level of understanding regarding purposes related to the professional development purpose of Project YES, does that impact intern D’s concept of the community’s purpose? This type of question could be applied to all the subtopics within the three main themes. One area to start with for a future
study might be examining how interns’ attitudes about the technological values and purposes within the community impact the attitudes of other interns about technology. Taking that a step further would be to examine possible correlations between the impact of attitudes and levels of awareness and knowledge contribution.

Another area of study would be to examine patterns of communication between staff members and interns. One part of this study would be what type of connections do the staff members have within existing subnetworks and do they have their own subnetworks. On a boarder scale, it would also be interesting to see how participation and knowledge contribution might shift if staff members played a more active role in communicating about events. Currently, staff member involvement in those discussions is limited. The staff participate in the monthly Elluminate debrief calls, but generally only in a facilitation roll. A research study could be conducted around the impacts on levels of awareness and knowledge contribution if the staff member’s involvement shifted to be more active. For example, what changes in knowledge contribution might occur if the staff member participated more actively in the blog – both to give more substantial feedback and to blog about his or her own experiences at events. If the staff member also set professional goals around events and shared those with the interns, what kind of changes might happen related to patterns of communication. If the sample size were larger, a study of communication between staff members and interns could be conducted as a more formal social network analysis study.

Another potential area of future research would be to apply a similar research study to another non-formal educational learning community that is not connected to Project YES. Specific areas of interest might relate to examining the community to determine what kinds
of subnetworks exist and how participants share knowledge. Communities with different parameters might be vastly different. For example, in Project YES, the subnetworks were already in existence within seven months of the second cohort starting. It would be interesting to look at timeframes and determine how quickly the subnetworks begin. This could be of great significance if a non-formal learning environment was operating on a semester schedule and participants did not carry over between semesters like some of the Project YES interns do. Another aspect would be to examine whether similar patterns occur in a non-formal learning environment where participants never met face-to-face. Although the Project YES interns have limited opportunities to meet in-person as an entire group, some of the study participants noted the impact that initial face-to-face meeting had on some of the connections in their subnetworks. This type of subnetworks may not exist the same way in a non-formal learning environment where the all of the learning and interaction occurs online and there are no face-to-face discussions.

**Conclusion**

The four findings from the study that have been discussed in this chapter help address the gap in the literature identified in chapters 1 and 2 relating to professional development and training in non-formal learning environments. The literature did contain some examples, primarily from the *Journal of Extension*, that addressed the need for continuing professional development, and described some technologies and technology integration methods being used in non-formal learning contexts. However, there seemed to be few examples in the literature that discussed including ongoing training as an essential element of a virtual, non-
formal learning environment. The findings from this study are: Convergence of the three themes impacts the extent of the interns’ knowledge contribution; connections between high/medium/low levels of awareness in the three theme areas relate to professional development growth; existence of subnetworks that create internal and external knowledge flow networks; and perception of technology skills and values is a background factor that influences involvement in the community.

The implications of connections between patterns of interaction, knowledge contribution, and professional development goals is significant for the Project YES virtual learning community and will impact how I train and support interns in the new cohort this year. I have already implemented some changes based on the findings. The findings may also be beneficial to other non-formal learning communities, especially if they have a professional development component and are conducting some or all of their communication in an online setting.

Because Project YES is mainly a virtual community, I was surprised to discover the subnetworks during the study, to see how ingrained they are in the fabric of the community. I was aware that the interns talked to each other outside of the military youth events and I knew that some of them were providing support for each other. However, I did not realize the extent to which the subnetworks support the communication and knowledge contribution within the community, nor did I realize that every intern in the study had a solid network in place. I was also very surprised by the distinctions between knowledge seekers and knowledge providers and how the roles connected to the themes and the professional development goals of the interns. The discovery of the networks is beneficial in that it will
give me another tool that can assist me to facilitate training and professional development more effectively with a larger number of interns. I have already started using several new ideas to implement in the Project YES community based on the study. I look forward to continuing to implement ideas that resulted from the study, and I also look forward to conducting some of the additional research mentioned earlier, especially the question regarding the subnetworks of other interns. For the Project YES community conducting studies like this and implementing the findings matters because the potential outcomes impact so many people on a significant scale. In my role as training coordinator it matters, in the same way Sophia noted about her work with the military youth: “It’s like “how are you going to make those connections with these youth for a while, or maybe for a lifetime?” For me, that question applies to both the professional development of the interns in regards to their careers, and my duty to prepare the interns to make positive, personal impacts with military youth.
REFERENCES


doi: 10.1177/1523422308319536


Billings, D., & Kowalski, K. (2005). Online learning communities can provide support for


Crozier, J., Orey, M., & Koenecke, L. (2003). Learning communities via the internet a la epic learning: You can lead the horses to water, but you cannot get them to drink. *Innovations*


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Appendix A: Sample Schedule from Project YES Event

LOCATION – MILITARY BRANCH
DATE
THEME: COMMUNICATION, LEADERSHIP, TEAM BUILDING, AND DIVERSITY
AGE 13+

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 – 8:00</td>
<td><strong>Drop Off</strong> – Participants will fill out “interesting facts” while waiting for all participants to arrive.</td>
</tr>
<tr>
<td>8:00 – 8:15</td>
<td><strong>Introductions and Welcome</strong></td>
</tr>
<tr>
<td>8:15 – 8:45</td>
<td><strong>Name Game</strong> – Participants will pass around a ball to learn names of other participants. Once names have been established, more balls will be added to the circle to make the task more difficult. If participants already are familiar with one another, participants will be asked to state their name and one fact. Participants will be challenged to learn a fact about everyone present by the end of the lunch break.</td>
</tr>
<tr>
<td>9:00 – 9:30</td>
<td><strong>Human Knot</strong> – Participants will get into a group and link hands. Once tangled, they will need to use communication, listening, and leading skills to undo the tangle. This activity is usually difficult, but does a great job of getting the participants comfortable around their peers in a situation where everyone’s actions impact the outcome. <strong>Discussion</strong> will focus on communication, team building and cooperation.</td>
</tr>
</tbody>
</table>
9:30 – 9:45  BREAK

9:45 – 10:15  **Responsibility Juggle** – Participants will be asked to write down all of the responsibilities they have at home, in school and in other aspects of life. They will then write these responsibilities down on the balloons. Participants will then be asked to keep all of the balloons from touching the floor, using all of the resources they can. When balloons fall, they will be asked to reevaluate the situation and see how they can keep all of them up, whether by asking help from adults in the room or by popping “responsibilities” that aren’t as important. *Discussion* focuses on how to use all resources and not to over extend oneself and will tie in the idea that fitness is a priority.

10:15 – 10:45  **Free-Standing Structure** – Participants will use balloons, tape and paper to build a free standing structure that will hold the weight of two tennis ball. *Discussion*: will focus on teamwork and leadership.

10:45 – 11:30  **First Impressions** - Paper will be taped onto the backs of all the participants. They will then walk around talking to one another writing down the first positive impression they have on the individual. Discussion focuses on leaving a good impression and how this relates to back to school time.

11:30 – 12:30  LUNCH

12:30 – 1:45  **Landmine** – Participants will get into two groups. One group will be out in the “field” where they will be blindfolded. The seeing group will be outside of the “field” and will direct their teammates out of the field avoiding obstacles. *Discussion* will focus on importance of clear communication and listening skills as well as trust.

1:45 – 2:15  **Tanks** - Participants will engage in a competitive activity where pairs have to communicate by giving clear instructions in order to “win.” *Discussion* will focus on communication and cooperation skills and may relate to deployment/reintegration issues. This activity may be done once early on as a competition and then later as a follow-up leading into discussion deployment issues.
2:15 – 2:30  BREAK

2:30 – 3:15  **The Grid** – Participants will work together to finish a maze without knowledge of the solution. *Discussion* will focus on communication and resiliency.

3:15 – 3:45  **Scribble Drawing** - Participants will be asked to make a scribble on a piece of paper. Members of the group will exchange papers and will create a picture from the scribble. Participants will continue to exchange papers and will add on until the picture is complete. They will then be asked to create a story using the group’s photos. *Discussion* will focus on diversity, communication, and the community as a whole.

3:45 – 4:00  **Clean Up**

4:00  RELEASE/PICK-UP
Appendix B: Connections Between Interview Questions and Subquestions

The overall research question for this study is: *To what extent do participants of an educational online learning community in a non-formal setting engage in sharing, constructing, and creating knowledge?*

**Subquestions:**
- What patterns of interaction emerge among the interns that foster knowledge sharing, construction, and creation?

  Associated Interview Questions

  1. What is your role in the Project YES online learning community?
  2. What have you learned by participating in the online elements of Project YES, such as the blog, the groups on Wiggio, and Twitter?
  3. How did you learn information from other interns?
  4. What do you feel other interns have learned from you?

- How do the technology tools facilitate the various modes of knowledge contribution?

  Associated Interview Questions

  5. How have you used the various technologies, such as Elluminate, Skype, Wordpress, and Wiggio, in your online interactions with other interns and Project YES staff?
  6. Which technology has been the most beneficial? Please explain why.
  7. Which technology has been the least beneficial? Please explain why.

  11. What aspects of the technologies are the most beneficial in helping you share what you were learning with each other?
  12. What aspects of the technologies hinder you from sharing what you were learning with each other?
  13. Are there additional technologies, or different ways to use the current technologies that might be helpful?
• When does knowledge sharing, construction, and creation occur in the online setting?

Associated Interview Questions

15. How do other factors, besides technology, impact how you shared what you learned with other interns?

• What impact does the knowledge sharing, construction, and creation process have on the professional development goals of the interns?

Associated Interview Questions

1. What is your role in the Project YES online learning community?

15. How do other factors, besides technology, impact how you shared what you learned with other interns?
Appendix C: IRB Request for Exemption

North Carolina State University
Institutional Review Board for the Use of Human Subjects in Research
REQUEST FOR EXEMPTION (Administrative Review)

GENERAL INFORMATION

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Date Submitted:</td>
<td>December 19, 2011</td>
</tr>
<tr>
<td>2. Title of Project:</td>
<td>Knowledge Building in a Non-formal Virtual Setting through a Social Constructionist Approach: A Case Study of an Online Learning Community</td>
</tr>
<tr>
<td>3. Principal Investigators:</td>
<td>Myra Moses</td>
</tr>
<tr>
<td>4. Department:</td>
<td>Curriculum and Instruction</td>
</tr>
<tr>
<td>5. Campus Box Number:</td>
<td>7801</td>
</tr>
<tr>
<td>6. Email:</td>
<td><a href="mailto:mgmoses@ncsu.edu">mgmoses@ncsu.edu</a></td>
</tr>
<tr>
<td>7. Phone Number:</td>
<td>919-513-2790</td>
</tr>
<tr>
<td>8. Fax Number:</td>
<td>919-513-4813</td>
</tr>
<tr>
<td>9. Faculty Sponsor Name and Email Address if Student Submission:</td>
<td>Dr. Ellen Vasu  <a href="mailto:ellen_vasu@ncsu.edu">ellen_vasu@ncsu.edu</a></td>
</tr>
<tr>
<td>10. Source of Funding? (required information):</td>
<td>NA</td>
</tr>
<tr>
<td>11. Is this research receiving federal funding?</td>
<td>NA</td>
</tr>
<tr>
<td>12. If Externally funded, include sponsor name and university account number:</td>
<td>NA</td>
</tr>
<tr>
<td>13. RANK:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Faculty: ☐ Student: ☐ Undergraduate; ☐ Masters; or ☒ PhD Other (specify): ☐</td>
</tr>
</tbody>
</table>

As the principal investigator, my signature testifies that I have read and understood the University Policy and Procedures for the Use of Human Subjects in Research. I assure the Committee that all procedures performed under this project will be conducted exactly as outlined in the Proposal Narrative and that any modification to this protocol will be submitted to the Committee in the form of an amendment for its approval prior to implementation.

Principal Investigator:
Myra Moses
(typed/printed name)  (signature)  (date)

As the faculty sponsor, my signature testifies that I have reviewed this application thoroughly and will oversee the research in its entirety. I hereby acknowledge my role as the principal investigator of record.

Faculty Sponsor:
Dr. Ellen Vasu
(typed/printed name)  (signature)  (date)

*Electronic submissions to the IRB are considered signed via an electronic signature

PLEASE COMPLETE AND DELIVER TO:
(carol_mickelson@ncsu.edu) or Institutional Review Board, Box 7514, NCSU Campus (Administrative Services III, Room 245)

For SPARCS office use only

Regulatory Compliance Office Disposition

☐ Exemption Granted  ☐ Not Exempt, Submit a full protocol
Exempt Under: ☐ b.1  ☐ b.2  ☐ b.3  ☐ b.4  ☐ b.6

IRB Office Representative  Date

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Project Description: Describe your project by providing a summary and answering the requests for information below.

1. Project Summary. Please make sure to include the purpose and rationale for your study as well as a brief overview of your study.

This study will examine the extent to which participants of an educational online learning community in a non-formal setting engage in knowledge contribution through creating, constructing, and sharing knowledge. The study will collect data about the experiences of Project YES (Youth Extension Service) interns in their online learning community in order to investigate whether patterns of online interaction between and among interns impact knowledge contribution processes related to professional development. Project YES is a program coordinated through NC State’s Department of 4-H Youth Development and Family & Consumer Sciences and the General H. Hugh Shelton Leadership Center. The program trains college interns to implement leadership and life skills curriculum with military youth whose families are dealing with deployment issues. Project YES also focuses on providing the interns with transferrable professional skills that will be useful in their future careers. As part of their experience working with each other and Project YES staff, the interns participate in an online learning community through various technologies, such as Elluminate, Wordpress, Skype, and Facebook. They also interact with each other and Project YES staff at military youth events in face-to-face settings. The study will include a) interviews with the interns that examine their perspectives regarding the online community and their perceptions of knowledge contribution processes within the community, and b) observation and analysis of online participation of the interns. The study has the potential to provide better understanding of how to facilitate the online learning community to maximize the benefits of Project YES for both interns and military children. It will also provide more information about delivering professional development training in an online, non-formal setting for youth development workers.

2. Description of participant population, including age range, inclusion/exclusion criteria, and any vulnerable populations that will be targeted for enrollment.

The participants will be a subset of the eighteen Project YES interns from around the United States who are serving during the 2011-2012 academic school year and who are participating in the online learning community. The interns are graduate and undergraduate students from different universities in twelve different states: California, Florida, Georgia, Hawaii, Kentucky, Maine, Maryland, Massachusetts, Nevada, North Carolina, Virginia, and Wisconsin. There is one male intern and seventeen females. Based on how they identify themselves, four interns are African-American, one is Hispanic, and thirteen are Caucasian. The interns range in age from 19 to 51. Fifteen of the interns are ages 19-23; the others are 25, 28, and 51 years old.

The interns function in one of two roles:

- Team leads – These interns lead groups of their peers in planning and implementing youth events
- Team members – work with youth and other interns, but do not serve as team leads.

In order to get a range of feedback from interns who are involved in Project YES at different levels, two interns from each group will be selected for recruitment who regularly volunteer for additional assignments; and one intern from each group will be selected who rarely/never volunteers for additional assignments. Once selected for recruitment, the interns will be selected...
based on their willingness to participate in the study as indicated in their response to the
recruitment email (see Appendix B).

3. Description of how potential participants will be approached about the research and how informed
consent will be obtained. Alternatively, provide an explanation of why informed consent will not be
obtained. Include a copy of recruitment materials, such as, scripts, letters of introduction, emails, etc.
with your submission.

Potential participants will be invited to participate in the study via a recruitment email. The Project
YES interns are used to working with the researcher on many aspects of their internship through
email, so a recruitment email will be the most effective way to communicate with them about the
study (See Appendix A). The Informed Consent Form (See Appendix B) will be attached to the
recruitment letter. Interns who elect to participate in the study will sign the form and return it to
the researcher.

4. Description of how identifying information will be recorded and associated with data (e.g. code
numbers used that are linked via a master list to subjects’ names). Alternatively, provide details on
how study data will be collected and stored anonymously (“anonymously” means that there is no link
whatsoever between participant identities and data). Describe management of data: security, storage,
access, and final disposition.

The study will include two types of data: interview data from the face-to-face or Skype/Elluminate
interviews with participants and observational data of the online community activities. Both types
of data will be discussed using pseudonyms for the participants. Before beginning any data
collection, the researcher will create a key for the pseudonyms that will be used. The master key
for the code will be kept in a password-protected folder to which only the principle investigator
will have access.

Efforts will be taken to ensure anonymity to the level possible; however, due to the small number
of participants and Project YES staff’s familiarity with the interns, there is the chance that
participants could be identified from their comments. Every precaution will be taken to insure that
this does not happen.

Although the researcher also works closely with the interns during training and throughout their
internship as they plan their events, none of the areas addressed by the study are part of
performance evaluation information that could impact interns’ eligibility to travel to any events, or
to apply for additional years in the program; therefore, there is no risk to the participants.

5. Provide a detailed (step-by-step) description of all study procedures, including descriptions of what the
participants will experience. Include topics, materials, procedures, for use of assessments (interviews,
surveys, questionnaires, testing methods, observations, etc.).

The study will be conducted in two phases. The initial phase will consist of interviewing the
interns face-to-face at one of the military youth events, or via Skype/Elluminate; and phase two
will consist of online observation of the interns’ activities in the online learning community.

**Phase I – Individual Intern Interviews**
The researcher will conduct the interviews while attending one of the military youth events, or via
Skype or Elluminate. Military youth events are held at either a hotel or conference center, so the
interview will be conducted in a hotel conference room where interns are used to conducting
activities with the military youth. Interns regularly receive individual feedback from the researcher at events on a number of topics, so holding a one-on-one conversation will not identify them as participants in the study. All efforts will be made to conduct interviews face-to-face; however, if that is not feasible, the interviews will be conducted via Skype or Elluminate. The interns are used to communicating with the researcher via Skype or Elluminate as part of the planning and debriefing they do during the internship.

Interviews will be approximately one hour in length and will be audio-recorded. The researcher will also take hand-written notes during the interviews. During the interview, participants will be asked their opinions about technical aspects of the online community and how the online learning community allows them to create and share knowledge with the other interns. Participants will be given the opportunity to review the transcriptions of their interview.

**Interview Questions (See Appendix C for complete interview protocol)**

1. What is your role in the Project YES online learning community?
2. How have you used the various technologies, such as Elluminate, Skype, Wordpress, and Wiggio, in your online interactions with other interns and Project YES staff?
3. Which technology has been the most beneficial? Please explain why.
4. Which technology has been the least beneficial? Please explain why.
5. What have you learned by participating in the online elements of Project YES, such as the blog, the groups on Wiggio, and Twitter?
6. How did you learn information from other interns?
7. What do you feel other interns have learned from you?
8. What aspects of the technologies are the most beneficial in helping you share what you were learning with each other?
9. What aspects of the technologies hinder you from sharing what you were learning with each other?
10. Are there additional technologies, or different ways to use the current technologies that might be helpful?
11. How do other factors, besides technology, impact how you shared what you learned with other interns?

*Note: If relevant, ask any necessary clarifying questions based on information discussed during the interview.*

**Closing Questions:** Is there anything else you would like to share?

**Phase II – Online Learning Community Observations**

In the second phase, the researcher will analyze activities and interactions in the online learning community. This will include looking at the interns’ postings, recordings of Elluminate sessions, and recordings of Skype calls. These artifacts will provide a way to assess how participants are sharing and creating knowledge and how technology impacts that. The following data will be collected.

- **Event planning data** – Event planning data will include emails exchanged by interns as they plan an event, data from the team folder in wiggio.com (usually documents and comments on the documents), and recordings of planning meetings held via Skype. I plan to collect data from all of these online elements of individuals participating in the study during each month of the data collection phase.
- **Event Blogs** – Following all the events they attend, each intern is expected to write and publish a blog posting about the event. These postings are approximately half a page in length. The interns sometimes comment on each other’s postings. I will be analyzing all the blog postings and comments made by the participants during the data collection phase.

- **Elluminate/Skype Sessions** – Each month, the interns are expected to attend a debriefing session that is held in Elluminate. The interns discuss their events with interns from other teams, and talk about planning processes and event facilitation strategies. I will record the Elluminate sessions that occur during the data collection phase and analyze participants’ participation.

Participants will be given the opportunity discuss the observations related to their online participation.

6. Will minors (participants under the age of 18) be recruited for this study?
   
   No minors will be included in the study.

7. Is this study funded? **No** If yes, please provide the grant proposal or any other supporting documents.

8. Is this study receiving federal funding?
   
   There is no federal funding associated with the study.

9. Do you have a significant financial interest or other conflict of interest in the sponsor of this project?
   
   I do not have any significant financial interest associated with this study. I do have a potential conflict of interest in that I work with the interns as their curriculum and training coordinator and have input into whether they remain in the program in subsequent years. However, none of the data observed during the study is data that impacts decisions regarding whether interns remain in the program. Also, I am not the sole decision-maker as to who remains since additional Project YES staff members have input into the decision of who remains with the Project Director having the final say.

10. Does your current conflicts of interest management plan include this relationship and is it being properly followed?
    
    Potential participants have the option to refrain from participating in the research study with no repercussions.

11. **HUMAN SUBJECT ETHICS TRAINING**
    
    *Please consider taking the Collaborative Institutional Training Initiative (CITI), a free, comprehensive ethics training program for researchers conducting research with human subjects. Just click on the underlined link.

12. **ADDITIONAL INFORMATION:**
    
    a) If a questionnaire, survey or interview instrument is to be used, attach a copy to this proposal. Interview questions are included in #5 of the Project Description section
    
    b) Attach a copy of the informed consent form to this proposal. See the IRB website for a Sample Consent Form and Informed Consent Checklist [http://www.ncsu.edu/sparcs/irb/forms.html](http://www.ncsu.edu/sparcs/irb/forms.html)

   See attached
c) Please provide any additional materials (i.e., recruitment materials, such as “flyers”, recruitment scripts, etc.) that may aid the IRB in making its decision. NA

*If a survey instrument or other documents such as a consent form that will be used in the study are available, attach them to this request. If informed consent is not necessary, an information or fact sheet should be considered in order to provide subjects with information about the study. The informed consent form template on the IRB website could be modified into an information or fact sheet.

The Following are categories the IRB office uses to determine if your project qualifies for exemption (a review of the categories below may provide guidance about what sort of information is necessary for the IRB office to verify that your research is exempt):

Exemption Category: (Choose only one of the following that specifically matches the characteristics of your study that make this project exempt)

- 1. Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

- 2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

*Please Note: this exemption for research involving survey or interview procedures or observations of public behavior does not apply to research conducted with minors, except for research that involves observation of public behavior when the investigator(s) do not participate in the activities being observed.

- 3. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph (b)(2) of this section, if: (i) the human subjects are elected or appointed public officials or candidates for public office; or (ii) federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.

- 4. Research, involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available, or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

- 5. Not applicable

- 6. Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed, or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration, or approved by the Environmental Protection Agency, or the Food Safety and Inspection Service of the U.S. Department of Agriculture.
Appendix D: Recruitment Email

Dear [Name of Intern],

I would like to invite you to participate in my doctoral research study. I am a graduate student in the Department of Curriculum, Instruction, and Counselor Education at NC State University. The purpose of my study is to examine the experiences of Project YES interns in an online learning community.

As a participant, you will be asked to participate in an interview, approximately 50-60 minutes, and allow your online contributions through the technologies used in Project YES, such as the blog, Skype, Elluminate, email, Twitter, etc. to be observed and analyzed for the purpose of the study.

There are no risks associated with participating, or declining to participate in this study. None of the information collected will impact any aspect of your internship. While you may gain personal/professional benefits from participating in the study, there is also no financial benefit or compensation associated with this study. Please see the attached Informed Consent Form for more information.

If you would like to participate in this research study, please read and sign the Informed Consent Form and return it to me one week from the date of this email.

If you have any questions, please let me know.

Thank you,
Myra
Appendix E: Informed Consent

North Carolina State University
INFORMED CONSENT FORM for RESEARCH

Title of Study: Knowledge Building in a Non-formal Virtual Setting through a Social Constructionist Approach: A Case Study of an Online Learning Community

Principal Investigators: Myra Moses

What are some general things you should know about this study

You are being asked to take part in a research study as part of your experience as a Project YES intern. You have the right to choose not to participate or to stop participating at any time without penalty. Your participation in this study is voluntary as you may elect to be involved in a comparable evaluation project as an alternative to your participation.

You are not guaranteed any personal benefits from being in this study, and research studies also may pose minimal risks to those that participate. In this consent form you will find specific details about the research in which you are being asked to participate. If you do not understand something in this form it is your right to ask the researcher for clarification or more information. A copy of this consent form will be provided to you. If at any time you have questions about your participation, do not hesitate to contact the researcher named above.

What is the purpose of this study?

The purpose of this study is to examine the experiences of Project YES interns in an online learning community. Project YES is a program that trains college interns to implement leadership and life skills curriculum with military youth whose families are dealing with deployment issues Project YES also focuses on providing the interns with transferrable skills that will be useful in their future careers. The goal of the study is to identify characteristics of a non-formal educational online learning community and to observe how the interns create and explore knowledge in an online learning community.

What will happen if you take part in the study?

This study will begin on January 2012 and be completed by June 30, 2012. The research will take place online in the Project YES learning community and during face-to-face meetings at Project YES events. If you choose to participate in this study, you will be asked to:

- Participate in an audio-recorded interview about your individual contributions to and your perceptions of the Project YES online learning community.
- Allow the researcher(s) to examine your online postings and interactions in the online learning community.

The interviews will be conducted by Myra Moses in person at a Project YES event, or via Skype or Elluminate. The in-person interviews will be conducted in a hotel conference room where we typically hold our military youth events. The interview questions will focus on your perceptions of how you use the technology that is used by the Project YES online learning community. The observation of your online
postings and interactions will analyze how you use the technology incorporated in the Project YES online learning community. There will approximately six participants included in the study. You will have the opportunity to review your individual interview transcript and the observation data about your use of the technology. All data in the study will be discussed using pseudonyms in order to keep your participation confidential.

Risks

There are no significant risks associated with this study. There is a minimal risk that Project YES staff in addition to the researcher would be able to associate you with your data. Efforts will be taken to ensure anonymity to the level possible; however, due to the small number of participants and the staff’s familiarity with the participants in this study, there is the chance that you could be identified from your comments. Every precaution will be taken to insure that this does not happen. The study will include two types of data: observational data of the activities in the online learning communities, and interview data from face-to-face or online interviews with participants. Both types of data will be discussed using pseudonyms for the participants. The master key for the pseudonyms will be kept in a password-protected file and only the principle investigator will have access. You will be given an opportunity to read over your interview comments before they are used in the study.

Benefits

Potential benefits of participation may include:

- Reflecting on your participation in the Project YES online learning community
- Gaining a more thorough understanding of the way you interact with the members of Project YES in the online learning community.
- Assessing your progress in meeting the career preparation objectives.

Also, while it may not be of direct benefit to you, your feedback may help to improve the online learning community for future Project YES interns.

Confidentiality

The information in the study records will be kept confidential. Data will be stored electronically and kept secure by the researcher. Only the researcher will have access to the pseudonyms information; however, due to the small number of participants and the Project YES members’ familiarity with the interns, there is the chance that you could be identified from your comments. Every precaution will be taken to insure that this does not happen and you will have the opportunity to omit comments you have made from the interview data when you review your interview transcript. You will also have the opportunity to review the observations related to their online participation.

Compensation

You will not receive compensation for participating in this study.

What if you have questions about this study?

If you have questions at any time about the study or the procedures, you may contact the researcher Myra Moses at 919-513-2790, or through email at mgmoses@ncsu.edu
What if you have questions about your rights as a research participant?

If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Deb Paxton, Regulatory Compliance Administrator, Box 7514, NCSU Campus (919/515-4514).

Consent To Participate

“I have read and understand the above information. I have received a copy of this form. I agree to participate in this study with the understanding that I may choose not to participate or to stop participating at any time without penalty or loss of benefits to which I am otherwise entitled.”

Subject's signature_______________________________________  Date ____________

Investigator's signature____________________________________  Date ____________
Appendix F: Interview Protocol

Interview Protocol for Interview with Project YES Interns

Time: _______________  Interviewer:

Date: _______________  Interviewee:

Place: _______________

Opening Script
Thank you for agreeing to participate in this interview. I am going to begin by reading a short script. This is just to ensure that everyone participating in the interviews is aware of the same information. This interview is part of the research study I am conducting for my dissertation. The purpose of the study is to analyze how the Project YES interns use technology to collaborate with each other and share what they are learning.

The interview will last approximately 50-60 minutes. During this interview, we will be discussing face-to-face interactions with interns and staff members, including but not limited to orientation training, military events, and travel time together. The technologies I will ask you to discuss are those we have used this year with Project YES, including but not limited to: Wiggio, Twitter, email, Skype, Elluminate, Youtube, Wordpress, Wix, Photobucket, and Facebook.

Your participation in the study is anonymous. None of the information from your interview will be linked to identifying information about you. I will use a pseudonym when discussing your interview. Nothing in the interview relates to any elements of your performance as a Project YES intern. None of the questions from the interview relate to information that would impact any decisions that may be made about your status as an intern, such as whether or not you are selected if you apply for another year, what trips you are selected for, or the teammates you are paired with for events.

Your participation in this interview is voluntary, and you may request to stop the interview at any time. There will be no consequences for you if you do request to stop. At this time, do you have any questions before we begin the interview?

Interview Questions

1. What is your role in the Project YES online learning community?
2. How have you used the various technologies, such as Elluminate, Skype, Wordpress, and Wiggio, in your online interactions with other interns and Project YES staff?
3. Which technology has been the most beneficial? Please explain why.
4. Which technology has been the least beneficial? Please explain why.
5. What have you learned by participating in the online elements of Project YES, such as the blog, the groups on Wiggio, and Twitter?
6. How did you learn information from other interns?
7. What do you feel other interns have learned from you?
8. What aspects of the technologies are the most beneficial in helping you share what you were learning with each other?
9. What aspects of the technologies hinder you from sharing what you were learning with each other?
10. Are there additional technologies, or different ways to use the current technologies that might be helpful?
11. How do other factors, besides technology, impact how you shared what you learned with other interns?

Note: If relevant ask any necessary clarifying questions based on information discussed during the interview.

Closing Questions: Is there anything else you would like to share?

Closing Script
Thank you for participating in the interview. I appreciate your time and the feedback you provided.