3/4/2016

Date

James Martin, Ph.D., Chair

Peggy Hawkins, Ph.D., Committee Member

Jennifer Moss Breen, Ph.D., Program Director

Gail M. Jensen, Ph.D., Dean
DEVELOPING A SENSE OF COMMUNITY IN ONLINE COURSES

By

ASHLEY DIGMANN

A DISSERTATION IN PRACTICE

Submitted to the faculty of the Graduate School of the Creighton University in Partial Fulfillment of the Requirements for the degree of Doctor of Education in the Department of Interdisciplinary Leadership.

Omaha, NE

March 4, 2016
Abstract

Enrollment in online courses has grown drastically over the past decade. Institutions of higher education are offering online courses and more students are becoming enrolled in online courses and programs. One aspect of the growth in online courses involves the relationship between student feelings of isolation and online learning. The purpose of this study was to measure the relationship between communication types and the development of a sense of community in online education at a small, private institution. The study measured the relationship between communication types, trust, and participation with the development of a sense of community in online education at a private institution. Data were collected using the Classroom Community Scale survey. The sample for the study included students enrolled in online courses during a selected term at one small, private university. The survey results showed a strong relationship between connectedness and learning. Surprising results indicated a significant relationship between trust and the variables of sense of community and feelings of isolation. As trust increased, the sense of community decreased and feelings of isolation increased. A faculty development unit was created based on the results of the data analysis. The development unit includes a focus on activities and tools that will encourage community building within online courses. Instructors will participate in a variety of the activities so they can experience the activities to be better equipped to implement the activities and tools in their own courses.
Acknowledgements

Throughout this journey, I owe thanks to many different individuals. This dissertation could not have been completed without the support and encouragement I received from my advisor and dissertation committee chair, Dr. Jim Martin. I have greatly appreciated Dr. Martin’s advice and guidance through the completion of my dissertation. Dr. Peggy Hawkins, my other committee member, has been an integral part of my journey through the entire doctoral program. Dr. Hawkins was my initial advisor in the doctoral program, and she guided me in my development of a topic for my dissertation. I would like to offer a special thank you to my mentor, Dr. Rocky Von Eye, who encouraged me to enter a doctoral program and has been there to offer support throughout the entire process. I would not be where I am today if it were not for the support and encouragement of my parents. They have taught me the importance of hard work and persistence. Most importantly, I would like to thank my husband, Jared, and my kids, Jayden and Hadley. Throughout this process, I have worked hard to ensure that my own schoolwork did not get in the way of our family time, but inevitably it did. My husband was always there to pick up tasks when I could not. My family means the world to me, and I could not have made it through this journey without their love and support.
Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>iii</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>iv</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>v</td>
</tr>
<tr>
<td>List of Tables</td>
<td>ix</td>
</tr>
<tr>
<td>List of Figures</td>
<td>x</td>
</tr>
<tr>
<td>CHAPTER ONE: INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Student Participation and Online Learning</td>
<td>2</td>
</tr>
<tr>
<td>Instructor Promotion of Community</td>
<td>4</td>
</tr>
<tr>
<td>Synchronous and Asynchronous Communication</td>
<td>5</td>
</tr>
<tr>
<td>Problem Statement</td>
<td>6</td>
</tr>
<tr>
<td>Purpose Statement</td>
<td>6</td>
</tr>
<tr>
<td>Research Question</td>
<td>7</td>
</tr>
<tr>
<td>Significance of Study</td>
<td>7</td>
</tr>
<tr>
<td>Delimitations</td>
<td>8</td>
</tr>
<tr>
<td>Limitations</td>
<td>9</td>
</tr>
<tr>
<td>Assumptions</td>
<td>10</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>10</td>
</tr>
<tr>
<td>Argument</td>
<td>11</td>
</tr>
<tr>
<td>Organization of Study</td>
<td>12</td>
</tr>
<tr>
<td>Summary</td>
<td>12</td>
</tr>
<tr>
<td>CHAPTER TWO: LITERATURE REVIEW</td>
<td>14</td>
</tr>
</tbody>
</table>
List of Tables

Table 1. Classroom Community Scale Raw Scores.........................................................39
Table 2. Subscale Scores in Connectedness and Learning..............................................40
Table 3. Ordered Logit with “I Feel Isolated in the Course” as the Dependent Variable.....42
Table 4. Ordered Logit with “I do not Feel a Spirit of Community” as the Dependent
    Variable......................................................................................................................43
List of Figures

Figure 1. Histogram of Overall Classroom Community Scale Scores…………………………39

Figure 2. Frequency Histogram of the Connectedness Sub score from the

Classroom Community Scale…………………………………………………………….40

Figure 3. Frequency Histogram of the Learning Sub score from the

Classroom Community Scale………………………………………………………..41

Figure 4. Scatterplot with the Connectedness Sub score as the Independent Variable and

Learning Sub score as the Dependent Variable……………………………………..41
CHAPTER 1: INTRODUCTION

Imagine that a student takes an online course and has no previous relationship with the other students or the instructor in the course. This individual lives hundreds of miles from the other members of the course, and finds the content of the course extremely challenging. The student relies entirely on the course and its communication techniques to correspond and interact with the other individuals in the course. If the course does not encourage students to participate with each other through communication techniques and collaboration, the student may feel a sense of isolation in the course. This sense of isolation may have a negative effect on the student learning in the course.

Students in online courses may experience a sense of isolation when connections and relationships with other students are missing. Students that lack connections and support from other students tend to struggle in the academic portion of courses as well. Many students indicated that a lack of community within online courses created a challenge in the online learning environment (Song, Singleton, Hill, & Hwa Koh, 2004). These students believed that instructors must facilitate a sense of community within the course. This suggests the research question: what is the effect of various communication techniques on students’ sense of community in online courses?

Creating a classroom environment conducive to collaboration and interaction among students is an important task for educators. Many argue that student participation and interaction have a major effect on student learning within a course (Hrastinski, 2009, Vonderwell & Zachariah, 2005). Communication is one of the most important factors in creating opportunities for student interaction, which can lead to the development of a sense of community within the course (Dawson, 2006). Educators are responsible for developing courses that enhance
relationships among students through collaboration and discussion. A sense of community occurs when students have a sense of belonging to a group of individuals (Ouzts, 2006).

As the availability of technology is growing, online courses are becoming more important to the success of higher education programs. Online courses and degrees offer students an opportunity to go to school and complete their coursework in a flexible manner. In traditional classrooms, students and instructors are able to interact with each other through daily classroom activities. Online courses require students to communicate in a virtual space by utilizing communication techniques that allow students to communicate with each other at different times of the day (McNeil, Robin, & Miller, 2000).

The roles of the instructor and students within an online course differ from the roles in a traditional classroom. Students do not participate in classroom lectures and activities as they would in a face-to-face classroom. In a traditional classroom, students receive information from the instructor, and base their learning off the teaching techniques incorporated into the classroom. In online courses, students become more involved in the learning process and become active participants, as they do not have an instructor physically present as they maneuver through the course content (McNeil et al., 2000).

**Student Participation and Online Learning**

Student participation within online courses is one of the most critical and powerful tools in online learning. A survey of 1406 students enrolled in online courses indicated that high levels of interaction with the teacher, high levels of participation, and high levels of interaction with classmates, led to the highest levels of perceived learning (Fredericksen, Pickett, Shea, Pelz, & Swan, 2000). Some stressed the importance of participation and argued that student participation within online courses is the driving force behind learning the course content.
(Hrastinski, 2009). Others suggested that active and engaged learning will occur only when students participate fully within the online course (Vonderwell & Zachariah, 2005).

Online participation can take many different forms, and is not limited to face-to-face discussions and synchronous communication. Some define participation as actions taken within the framework of the connection between students and instructors, (Hrastinski, 2009). Online participation includes a large spectrum of activities, ranging from reading the course notes and writing and completing assignments, to discussion forums, which allow students to participate together (Hrastinski, 2009). Both traditional and online courses encourage student participation through course readings and topical writing. These forms of participation give students a vested experience, but participation in online courses must go beyond basic levels of participation.

Student participation in class activities gives students the opportunity to feel a sense of belonging and acceptance within the group. Studies of participation have found that motivation is one significant factor in learning, as participation within courses motivates students to learn. Studies have found that students who were unsuccessful in online courses were less active and did not participate in the course to the same extent as the students who successfully completed the course (Morris, Finnegan, & Sz-Shyan, 2005). These studies indicated that student motivation leads to higher participation and better success in the online courses. Course development should encourage a sense of community among all participants and should include specific experiences such as interaction, participation, and social learning (Ouzts, 2006). Student motivation and dialogue among students occur through student presence and participation within the online course (Vonderwell & Zachariah, 2005).

Online education is missing the face-to-face interactions shared in traditional classroom courses. Some argued that the relationships that develop among students have a dramatic effect
on learning and enhance student participation in online courses, which strengthens the online learning environment (Hrastinski, 2009). In a physical classroom, students have the opportunity to interact with classmates face-to-face, through both organized and informal interactions. Shared experiences, and a combination of the various interactions that take place, provide students an opportunity to develop a sense of community within the classroom. In online courses, participation must include specific activities for students to interact in the course together. Simply completing assignments and course readings will not develop a true sense of online community. The willingness of students to embrace the experience of the online classroom determines the success of relationship formation (Brown, 2001).

**Instructor Promotion of Community**

Instructors play a critical role in the community development among the individuals in their online courses. Online instructors should promote a sense of community within online courses, which helps students to share information among each other as they become more committed to each other and the goals of the group (Rovai, 2001). The promotion of interaction through learning activities gives students an opportunity to work together and collaboratively solve real-world problems (Ouzts, 2006). The instructor is not only the teacher, but must interact with students as both a coach and facilitator (McAllister, 2009). A facilitator guides students in their learning by offering indirect assistance or supervision. It is the instructor’s responsibility to facilitate discussions within the course while adapting to every student’s unique ways of communicating and learning in the online platform (Rovai, 2001). Clear communication of instructor expectations of course participation will encourage students to interact with each other within the course (Vonderwell & Zachariah, 2005). Interaction occurs when students work
toward shared course requirements through both formal and informal socializing with other members of the course (Rovai, 2001).

Instructors play a major role in developing a sense of community within their online courses (Rovai, 2001). The instructor is responsible for creating course activities that require students to collaborate and discuss course topics. A strong sense of community within the group helps students share information and develop support systems that lead to cooperation among students to work toward the shared goals of the course (Rovai, 2001). Certain assignments truly challenge students to work together and help each other understand the material presented. An instructor will not be able to facilitate a true sense of community for all participants, but the goal is to make opportunities available for all students to become a part of the learning community. Learning occurs when a community of individuals encourages each other and enhances the knowledge acquisition of the members of the group (Rovai, 2001).

Student participation occurs when discussion forums are: planned out, managed by the instructor, and actively facilitated to encourage participation (Lam, 2004). A connection to the curriculum will develop through discussions of values, beliefs, and goals, a critical part of course discussion forums (Ouzts, 2006). Personal connections among students within the course give students a sense of belonging through the support they have acquired in a community of learners.

**Synchronous and Asynchronous Communication**

Online courses can include technology tools that will enhance the learning environment. Students have different learning styles and abilities, so the utilization of a variety of teaching methods and techniques will effectively present the material to students (Singh, Mangalaraj, & Taneja, 2010). Two distinct categories of teaching tools exist for online classroom utilization: synchronous and asynchronous (Jones, 2011). Asynchronous techniques allow students to
communicate with each other whenever it is convenient, anywhere, and at any time of the day. These tools include email, blogs, videos, and discussion forums. Asynchronous communication gives students an opportunity to interact without the physical constraints present in traditional courses, as students can communicate with each other at convenient times and places (McNeil et al., 2000). Communication conducted asynchronously allows students to reflect on ideas and grants time to engage in deeper ideas and responses (Oztok, Zingaro, Brett, & Hewitt, 2013).

**Problem Statement**

Online courses offer unique challenges to instructors and students as many never meet face-to-face. Due to the physical distance between participants, it can be difficult for students to feel connected to others in their online courses, which may have an effect on student learning in those courses (Hrastinski, 2009). A sense of community is an integral component of all courses, regardless of the format the course takes (Ouzts, 2006). Traditional classes offer the opportunity for students to communicate in both a formal and informal manner without much guidance or direction needed. Development of a sense of community can occur through these interactions. Online courses create a challenge to relationship building and communication within the course framework, as communication takes place in a digital format. Students may become isolated in the learning process, leading to lower levels of achievement in online courses.

**Purpose Statement**

The purpose of this study was to measure the relationship between communication types and the development of a sense of community in online education at a small, private institution. Online education is a growing facet of education, and it is important for virtual classrooms to encourage a sense of community among the students in order to engage the students and to create a supportive educational community. The study used a survey to measure the relationship
between communication types, participation, and trust, with the development of a sense of community. At the same time, the study explored the perception of community and the tools that were successful in developing a sense of community using an open-ended question in the survey of online undergraduate students at a small, private university. Combining both quantitative and qualitative data allowed the researcher to converge quantitative results of the survey with the qualitative student opinion data in order to develop an implementation plan that will enhance the sense of community in online courses.

**Research Question**

With the rise of online education, it has become important to create a classroom environment that fosters student learning and encourages the formation of online relationships and networks. The purpose of this paper is to gain leverage on the following research question. Research Question: What is the effect of various communication techniques on students’ sense of community in online courses?

**Significance of the Study**

Communication within online courses is electronic, which can impede the ability of students to develop personal connections with others (Aragon, 2003). When students become isolated, their potential to succeed in the course diminishes (Rovai, 2002a). Developing a sense of community is critical to student participation and learning. Students and instructors in online courses must set out in a purposeful manner in order to make an attempt at community building. It is important to develop courses that encourage a sense of community within the learning environment, which allows students to avoid the feelings of isolation that may occur within the online learning environment (Lam, 2004). A greater sense of community within online courses may lead to perceived higher levels of learning within the course (Rovai, 2002c).
According to a study conducted in 2010, the percentage of postsecondary students enrolled in at least one online course was 31.3%, compared to 9.6% in 2002 (Allen & Seaman, 2011). Many students have the opportunity to choose online courses to fulfill requirements of their major. In 2012, 62.4% of higher education institutions offered online degree programs (Allen & Seaman, 2013). Online courses and programs allow students flexibility around their current schedules, which gives many non-traditional students an opportunity to earn a degree that was unattainable in a traditional classroom. These students are non-traditional in the sense that they are unable to attend some, or all, of their classes on-site due to personal or professional reasons. Traditional students are able to fulfill requirements for their major in a flexible manner that fits into their full schedules.

As online courses are becoming a significant piece of education today, the importance of developing a supportive learning environment is growing. Students and instructors are communicating through technology and will never meet face-to-face, leading to a lack of personal, human connection. The purpose of this study was to measure the relationship between communication types and the development of a sense of community in online education at a small, private institution.

**Delimitations**

A delimitation of this study was that the study occurred between August 2015 and November 2015. The study included one entire term of online courses, including both 8-week and 16-week courses. Only one sixteen-week time period was included due to the length of the terms at the university.

The study’s design included one small, private university in South Dakota. This university offers online degrees along with online courses that fulfill general education credits.
for traditional students. The study included both of these types of courses, as there is a large difference in the members of both groups. The online degree program contained a group of students considered adult learners, and these students tend to be members of the same cohort. These individuals will participate in several courses together, so a connection to each other may have already been present. The general education courses included students that are from a variety of majors and age groups. Many of these students will never meet face-to-face. The study included all undergraduate, online courses, with enrollment of at least two students, from the university’s fall 2015 term. These courses included a variety of subjects and departments.

**Limitations**

Students knew they were participating in a survey a week prior to its administration, so they may have answered in a manner that they thought was expected of them, causing a limitation for the data collection. For the qualitative research component, students self-reported their opinions on the sense of community within the course. Students may not have remembered all occurrences of synchronous communication. Other events might have altered their view of the community within the course.

The sample size utilized for the study was relatively small. The sample of students was determined based on all online courses offered during the fall term at one small, private institution. The online course enrollment determined the amount of surveys administered. A total of 55 surveys were returned with a response rate of 17%. At a 95% confidence level, there is a 12% measurement error.

A final limitation is that the researcher is a faculty member at the university where the student sample was obtained. The research teaches online classes at the university. The survey was not administered to students in the online courses taught by the researcher.
Assumptions

Online communication techniques are critical to this study. This scholarly leadership project will assume that the various techniques utilized are available for most online classrooms, regardless of the specific content and subject matter of the course. It is assumed that synchronous communication techniques are available to instructors in all content areas, and will not focus on a specific subject area.

The course instructors were from a variety of subject areas. The study assumes that the instructors were highly qualified to teach their specific content area and have received training or have an educational background in online instruction before teaching in the online classroom.

Students completed a survey to assess the communication techniques in the courses. They also shared their opinion of the development of a sense of community within the online classroom. Because the study was dependent on student surveys and opinions, the author assumed that students were giving an accurate response to the questions posed.

Definition of Terms

The following is a list of pertinent terms used throughout this study. The definitions included are the definitions used in this study.

*Asynchronous communication.* A form of communication that occurs when individuals interact with each other at varied times. This form of communication allows students to communicate with each other when it is convenient for each individual.

*Isolation.* A sense of solitude felt by learners when they feel disconnected from the other individuals within the course.
Online courses. These courses occur outside of the traditional classroom space through an online platform. This paper will analyze fully online courses that have no face-to-face component.

Participation. The actions taken within the framework of the connection between students and instructors (Hrastinski, 2009).

Sense of community. A community of learners that fosters interaction through a sense of belonging to the group of learners.

Synchronous communication. A form of communication that occurs when individuals interact in real-time. Multiple students are able to participate in the same activity simultaneously with their classmates.

Argument

In this study, the researcher argued that instructors are able to bridge the distance between students and to encourage student participation within the online course by promoting a sense of community within their courses and by utilizing teaching techniques that are available for online course development and delivery. Synchronous communication allows students and the instructor to interact with each other in real-time, while asynchronous techniques offer flexible communication for students in various time zones and with differing schedules.

Participation within an online course is critical to student learning within the course. It is the instructor’s responsibility during course development to include instructional activities that promote participation. The instructor will act as a facilitator, and continue a hands-on approach to the course and continue to facilitate the activities as necessary. As a facilitator, the instructor acts as a guide in each student’s learning process and assists students in achieving the objectives.
Students must be responsible for their own learning. Student motivation is critical to managing time in a manner that meets deadlines and allows for participation within the course. Students and instructors should work harder at developing relationships and creating a sense of community within the online learning environment. Students must take advantage of the opportunities given in the course, and learn to participate fully in discussions and other community-building activities in order to develop relationships and support systems within the course. Once the instructor and students foster a sense of community, students will feel a greater connection to the course and will be motivated to work harder and learn the material. A sense of community is developed through student presence and participation, instructor promotion of community, and communication techniques utilized in the course.

**Organization of Study**

The study includes five chapters, references, and appendixes. Chapter 2 will include the literature review. In this section, the author will analyze applicable literature on developing a sense of community within online courses. The research design and methods are included in Chapter 3. Chapter 3 contains the data collection techniques and procedures. Chapter 4 provides an analysis of the results. Finally, Chapter 5 contains the conclusion of the study based on the results, as well as recommendations from the author. The author provides an implementation plan on strategies to utilize in online courses to minimize the sense of isolation felt by students.

**Summary**

Institutions of higher education are offering more online courses and enrollment in these courses is growing. As a sense of community develops, students participate and become more involved in the course. Student participation, instructor promotion of community, and utilizing a variety of communication tools has a positive effect on student learning. The purpose of this
study was to measure the relationship between communication types and the development of a sense of community in online education at a small, private institution. Chapter 2 will present an analysis of the literature and the themes that emerged on the topic of community development.
CHAPTER 2: LITERATURE REVIEW

Introduction

The intent of this analysis was to develop an implementation plan to guide university faculty members in the development of undergraduate, non-cohort, online core courses that foster the growth of a sense of community within the online classroom. The purpose of this study was to answer the following research question. What is the effect of various communication techniques on students’ sense of community in online courses?

Imagine a typical college classroom experience. One might observe a room filled with students sitting at desks. A professionally dressed professor is at the front of the room lecturing to students about the curriculum topic of the day. The professor shares his or her knowledge about the topics being presented, and hopes to impart knowledge on the students. The instructor manages the structure and learning within that classroom.

Online students and instructor are not physically in the same location. The distance between students and instructors is present physically, but also may occur in the sense of relationship formation and community. Students may have difficulty forming relationships and feel a sense of isolation while participating in the course. Developing a sense of community within online courses is a significant challenge for instructors and students. The following literature offers insight into community development, its importance to education, and practices that may guide course instruction and participation to enhance community development. The development of social presence leads to trust and interaction. These intrinsic personal motivations lead to robust learning communities, and thus produces successful students. Through the analysis of the literature, the following themes have been identified: the importance of community, the development of social presence, the development of trust, student interactions,
DEVELOPING A SENSE OF COMMUNITY IN ONLINE COURSES

robust learning communities, the role of the instructor, and technical tools that support the development of learning communities.

The Importance of Community

In online courses, students are physically separated from the instructor and other students, which may cause a sense of isolation to occur. Students in online higher education courses may feel a sense of alienation, especially when connections and relationships with other students are missing (Rovai & Wighting, 2005). Alienation is described as the sense that a student is lacking support or connections with others and the lack of a sense of belonging to the group (Mau, 1992; Bronfenbrenner, 1986, Rovai & Wighting, 2005). It is the sense of isolation felt by students.

Students in online courses are more likely to feel a loss of connection and contact with the other students and the instructor within the course, leading to a sense of isolation (Palloff & Pratt, 2007). The physical distance and separation between students and each other and between the students and instructor, can lead to these feelings of solitude (Lehman & Conceição, 2010). Students feel a sense of aloneness due to geographical distance, differences in experience and expertise in the content area, and the absence of shared characteristics among them (Reilly, Gallagher-Lepak, & Killion, 2014).

These two factors, alienation and isolation, lead students to feel disconnected from the other students in an online course (Rovai & Wighting, 2005). This lack of connection, or lack of a sense of belonging, can have an adverse effect on student learning within the course. When students feel a connection with others, they begin to interact with each other and the instructor and share the learning experience with their classmates (Lehman & Conceição, 2010).

A classroom community is a social community where the students and instructor share knowledge, personal values, and work to attain shared goals (Rovai, 2002c). These learning
Developing a sense of community within online courses is a crucial mechanism for students to become part of a supportive learning environment. A powerful definition of community is “a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members’ needs will be met through their commitment to be together” (McMillan & Chavis, 1986, p. 9). Recent research has placed an increased importance on fostering a sense of community through the implementation of specific education practices (Dawson, 2006).

Developing a sense of community has become an integral component of a successful learning environment within online courses. Developing a sense of community is mutually empowering for all students involved, as it is a means for students to share opinions and thoughts with each other and to work and live collaboratively with others in a shared experience (Palloff & Pratt, 2007). When placed into the context of the online classroom, this connectedness can create a strong sense of obligation amongst students (Rovai, 2002b). Connectedness includes the feeling of belonging and acceptance that occur in relationships among students, which lead to friendships and student satisfaction with the course environment (Rovai, 2002c, p. 322). As these relationships develop, students become more engaged in the course (Brown, 2001).
In online courses, community building must be nurtured, as community attracts students to programs, and more importantly, helps them to stay in school and complete their degrees (Brown, 2001; Rovai, 2002b). Frequent communication encourages the development of online learning communities (Dawson, 2006). Community building creates support systems, allowing students to rely on each other for support throughout the progression of the course. Members of a strong learning community will feel a sense of belonging to the group and feelings of trust within the online course environment (Brown, 2001; Rovai, 2002a).

The Development of Social Presence

In order to study community within online courses, the importance of social presence must be explained. Online communication is less personal than face-to-face communication, and can lead to lower social presence (Rovai, 2002a). In general, social presence is defined by who people become when they are online and how they express themselves in the virtual world (Palloff & Pratt, 2007). Social presence measures student experiences in online courses by their feeling of community and the “feeling, perception, and reaction” to other students within the online course (Tu & McIsaac, 2002, p. 146). Social presence is the ability of students and the instructor to project their own personality and characteristics within the online course, allowing other students to see them as a real person (Garrison, Anderson, & Archer, 2000).

In order for students to get to know each other, certain components of the online classroom structure are critical. A student and instructor introduction post is one of the first steps toward developing rapport. As previously noted, students need to see each other and the instructor as real people. Introductions allow students get to know each other and engage each other as real people (Palloff & Pratt, 2007). In these introductions, social presence begins to develop when students are acknowledged through their peers’ and instructor’s responses. As
students create these human connections, they begin the critical formation of relationships. These relationships are the foundation for collaborative learning within the course (Palloff & Pratt, 2007). Discussions form through acknowledgments and responses from other students, which leads to feelings of safety and collaboration.

Social presence can be explained as the sense of “being there” and “being together” (Biocca, Burgoon, Harms, & Stoner, 2001, p. 2). “Being there” describes students’ ability to feel that they are present in the learning environment (Biocca et al., 2001, p. 2). “Being present” means that students are interacting with each other in the online course (Biocca et al., 2001, p. 2). Participation is a critical component of the teaching-learning process within online courses (Kuboni & Martin, 2004). Learning occurs when students are committed to a shared educational goal, and work together toward achieving that goal. It is imperative for students to see that their participation within the learning community is bringing them closer to their ultimate learning goals for the course (Rovai, 2002a).

A sense of social presence is imperative to building an online community (Garrison et al., 2000; Palloff & Pratt, 2007). Social presence is critical in promoting interaction within online courses (Tu & McIsaac, 2002). Social context, online communication, and interactivity have been found to be important contributors to social presence (Tu & McIsaac, 2002). Within the dimension of social context, familiarity among classmates as well as developed trust relationships among students will have a positive influence on social presence. The dimension of online communication indicated that students had difficulty expressing emotions and feelings through the classroom platform. Multithreaded discussions can be confusing for students and difficult to interpret. Interactivity, the third dimension, involves timely responses to online
communication. In online courses, it is critical for students to respond in a timely manner to other student communications (Tu & McIsaac, 2002).

Social presence helps reduce students’ feelings of isolation by creating a sense of connection and belonging to the learning community (Palloff & Pratt, 2007). Awareness of social presence is critical for nurturing and developing the online learning community (Rovai, 2002a). Understanding how students develop social presence will help to identify best practices for developing a sense of community within online courses.

**The Development of Trust**

Interactions among students within online courses do not occur immediately. Trust is a major factor in developing relationships within online courses. Students must first develop a trusting relationship with others in the course before they can achieve a higher level of social presence (Tu & McIsaac, 2002). Enhanced social presence leads to a classroom environment where learning takes place. The learning experience becomes more exciting and engaging due to the dynamic interplay of thoughts, behaviors, and emotions between the learners’ private worlds and their shared virtual world (Lehman & Conceição, 2010). A sense of spirit forms based on the relationships that develop within the online course. These relationships are signified by friendships and connections created among the learners (Rovai, 2002a).

In social interactions, individuals must make themselves vulnerable in order to develop connections with others. Through communication, participants risk rejection and misunderstanding (Palloff & Pratt, 2007). In order to anchor a virtual acquaintance or friendship, the students and instructor must continually work on earning each other’s trust and respect (Brown, 2001). With the formation of learning communities, trust will naturally develop among the students (Rovai, 2002c). As trust among students grows, so does the willingness of the
students to speak openly within the course, leading to gaps in learning and supportive student responses to fill in those gaps and expand each other’s knowledge (Rovai, 2002c).

Trust develops among students when they feel as though they can believe what other students are sharing and that the other students are truly concerned and interested in helping each other with learning the material in the course. The quality of student interaction is based on the trust developed among the learners. Student interaction that includes the sharing of personal information without the fear of retaliation can foster the development of the learning community (Brown, 2001; Rovai, 2002a).

**Student Interactions**

As social presence develops, students connect with each other through their interactions, allowing the genuine sharing of feelings (Lehman & Conceição, 2010). It is through interactions that students find similarities and share their thoughts and feelings with others in the course (Brown, 2001). Involvement in the course creates personal interaction among the students, creating less of a divide between the real and virtual world (Lehman & Conceição, 2010).

Participation within online courses is one of the most powerful methods utilized to achieve learning within online courses. Online learner participation must be fostered in order to enhance online learning within the course (Hrastinski, 2009). In order to increase interaction through dialogue among students and to motivate students to further the discussion, online presence and participation should be encouraged (Vonderwell & Zachariah, 2005). Logically, it follows that increasing dialogue among students offers an opportunity for true discussion to occur, allowing for a sense of community to develop among students.

Collaboration and interaction are not always natural to learners, especially to those who have been primarily educated in lecture-based classrooms (Conrad & Donaldson, 2011).
Collaborative course activities allow students to interact with each other and learn how to work with students from different time zones, cultures, and work styles (Lehman & Conceição, 2010). Interactive course activities support the sharing of ideas among students and encourage students to achieve a deeper level of thought (Conrad & Donaldson, 2011).

**Robust Learning Communities**

A major challenge for students within online courses is a lack of a sense of community (Song et al., 2004). Students tend to interact with each other through social discussions in an attempt to build interpersonal relationships, causing students to neglect the learning-orientated discussions of the course (Vonderwell, 2003). At the same time, the development of a strong learning community is an important factor in the development of productive discussions that enhance learning (Dawson, 2006).

In order to develop a sense of community, it is important for community members to find something in common, such as interests, goals, values, or experiences while also feeling responsible for their own and other students’ learning within the course (Brown, 2001). A sense of community develops through different levels within the online environment. The first level of community involves initially developing acquaintances and friends within the course. Similarities help guide students to interact on a regular basis. The second level involves becoming a community of learners, usually through a threaded discussion that includes an important subject for all members. The final level of community occurs after long-term personal communication, usually through multiple classes together (Brown, 2001). The literature indicates a gradual process of community development for students within online courses.

Research indicates a direct link to instructor concerns of inadequate classroom instruction online, the difficulty for student success in the online courses, and the overall student satisfaction
in online classes to the development of learning communities (Ouzts, 2006). Students who indicate high levels of community development feel that they develop a relationship with both the instructor and other students in the course. These students indicate that the courses are enjoyable and meaningful, and perceived a higher level of learning within the course (Ouzts, 2006). Students who indicate a low level of community had very little interaction with their classmates or instructor (Ouzts, 2006). Online courses should include activities and lessons that encourage students to interact with each other throughout the course. These activities allow students to collaborate with each other to solve real-life problems with many different peers from various backgrounds and beliefs (Ouzts, 2006). The sole responsibility of course development lies on the instructor. The instructor’s job is to utilize course delivery methods that encourage students to work collaboratively and interact with each other in ways that will replicate the environment present in traditional physical classrooms (Singh et al., 2010).

Online students feel a sense of connectedness to the online classroom community and students who have a stronger sense of community possess greater perceived levels of learning within the course (Rovai, 2002c). Developing a sense of community in online courses has proven to have many positive effects on the learning environment. The literature shows that a sense of community creates a positive learning environment.

**The Role of the Instructor in Learning Communities**

Social presence should be intentionally developed within online courses (Palloff & Pratt, 2007). Instructors must be aware of social presence and how to adapt online courses that promote creating connections and community with and among the students in the course. Instructors create social presence when they place students at the center of the course development by allowing them to give feedback to develop the online learning environment
(Lehman & Conceição, 2010). Learner-centered teaching involves the students and teacher working collaboratively to construct knowledge. Students are actively engaging in the learning process while connecting the knowledge with real-life contexts to discover and construct a better understanding of the course content (McAllister, 2009). The instructor must create an environment that welcomes students and invites them to begin course participation immediately. This environment is accomplished through clear course directions and support structures that enhance student learning and participation (Harasim, Hiltz, Teles, & Turoff, 1997).

Online course instructors are responsible for facilitating their availability with student-to-student interactions, along with instructor-to-student interactions. Accessibility is critical to developing social presence within online courses, both as an instructor and a student. Instructors should be accessible to the students in the course, but should also facilitate an environment where students are accessible to the instructor and to each other (Lehman & Conceição, 2010). Students are familiar with the interactions of instructors in traditional courses, and their involvement in guiding discussions and activities. When an instructor is absent from discussions, the students feel as though the instructor is not invested in the discussion forum (Lam, 2004). Online instructors should be actively involved and visible in the course discussion, which increases instructor presence within the course (Dennen, Darabi, & Smith, 2007; Mazzolini & Maddison, 2003).

The instructor is responsible for facilitating the sharing of ideas and opinions among the learners in the course, allowing students to become independent learners (Lam, 2004). The role of the teacher becomes more of a facilitator in order to encourage student-centered learning within the course (Harasim et al., 1997). In order for students to become independent learners, it is important for the instructor to participate in the discussion in a limited manner. Some studies
indicate that too much instructor involvement in the discussion may lead to shorter discussion postings within the course (Mazzolini & Maddison, 2003). The most successful course discussions tend to have a much higher proportion of student contributions compared to the instructor’s contributions (Harasim et al., 1997). The literature indicates that instructors should be involved within the course activities but should not take over the discussions. Limited instructor involvement allows the students to interact freely with each other and to drive the course discussion, while still demonstrating the instructor’s accessibility.

In a study conducted by Song et al. (2004), interviews with students indicated that instructors were responsible for facilitating the development of a community of learners. The instructor is responsible for creating a course in which the structure of the course allows students to create their own strategies to solve problems and to evaluate their solutions to those problems (Harasim et al., 1997).

Students prefer an instructor that gives timely feedback, but are less concerned with the amount of feedback given (Dennen et al., 2007). As noted, the literature suggests that teacher presence is an integral component in the successful development of a sense of community in online courses. Teacher presence involves the facilitation of the course while allowing students to interact and collaborate on their shared course goals.

**Technical Tools and the Development of Learning Communities**

As established in the previous section, the development of social presence leads to robust learning communities that exhibit mutual trust and positive interactions. Technically, there are tools within online courses that can facilitate the development of these learning communities. If used properly, these tools can enhance the online course environment, leading to community development within the course.
Online courses should include different methods of communication, which give students an opportunity to interact with each other and the instructor. Discussion forums encourage students to interact with each other. Discussions are developed to support the learning taking place in the course, allowing students an opportunity to interact with each other and discuss the concepts in the course (Mazzolini & Maddison, 2003). Discussions also help develop and foster a sense of community within online courses serving as a major mode of communication among students in the course (Mazzolini & Maddison, 2003). Some indicate a link between student success within an online course and his or her participation within the class discussion forums. Students that spend more time reading and participating within the discussion forums tend to be more successful in online courses (Morris et al., 2005).

To develop a sense of community in online courses, synchronous communication techniques should be utilized to complement the asynchronous techniques in place. Synchronous tools allow students to participate in the same activity, at the same time, from various locations. Synchronous tools include telephone, video conferencing, and online chat rooms (Jones, 2011). Synchronous communication allows students to become acquainted with their classmates and to form relationships as they work toward shared learning goals (Oztok et al., 2013).

Students in online courses can be located almost anywhere around the globe. While synchronous communication is more personal, it is not always a feasible option for students in a wide-range of locations and time zones. Many students prefer the flexibility of asynchronous communication (Dawson, 2006). Utilization of various technologies will enhance student learning and develop an online classroom that is engaging and interactive. Instructors are not able to stand in front of students and present information, so it is imperative for instructors to present the curriculum in a manner that allows students to discover knowledge for themselves.
In instructors can demonstrate course content to a wide variety of learners through various teaching methods, including: online videos, connecting students to the latest updates in the industry or topic presented, developing podcasts, and capturing software application screens (Singh et al., 2010). Online communication tools, both synchronous and asynchronous, allow students to work collaboratively on coursework. In an instructor-facilitated environment, students learn to work electronically with a diverse group of people, which is an important tool as they enter a diverse working environment after college. Many online courses take place within a learning management system. These systems offer a platform for instructors to develop their course with access to various communication techniques (Jones, 2011).

Synchronous communication techniques may foster social presence more so than asynchronous discussion (Oztok et al., 2013). Weekly synchronous chats may offer students an opportunity to connect with other students in real-time. These sessions encourage students to prepare by reading course materials in order to better engage in the discussion (Schwier & Balbar, 2002). Chat room discussions create a sense of urgency and immediacy which energizes the discussion, creating a sense of community among the students and instructor engaged in the discussion (Schwier & Balbar, 2002). Some argue that synchronous communication techniques may not allow students to take the necessary time to reflect and concentrate on the material, therefore having a negative effect on learning (Oztok et al., 2013). At the same time, these researchers argued that synchronous communication techniques have a positive effect on social presence within the course (Oztok et al., 2013).

Asynchronous communication is unique in its ability to allow students to work toward a shared goal from any location or time zone. These communication forms allow students to interact with each other in a flexible environment. Asynchronous communication democratizes
access within the course and encourages students to share their input with the entire class (Harasim et al., 1997). Asynchronous communication techniques include, but are not limited to, discussion boards, blogs, e-mail, and wikis (Jones, 2011).

Collaboration within online classrooms is a critical component of student success in online courses, and must be enhanced using communication tools. Online courses make it difficult for students to create connections with other students and to learn the techniques that are vital to working within groups. Group projects in online courses help students to work cooperatively with each other while allowing students to learn team dynamics (Singh et al., 2010). Collaborative activities connect the students within the course, which alleviates students’ feelings of isolation (Palloff & Pratt, 2007). Students have many collaboration tools available to them, which allow all group members to have access to the same file and the ability to make changes and additions to the project. Interdependence of students toward a shared learning goal is a critical aspect of effective online courses (Vonderwell & Zachariah, 2005).

**Summary**

The development of robust learning communities that display trust and interaction is crucial to a supportive, online learning environment. Through the literature, several themes have emerged as critical components of community building. Social presence enables students to interact with each other and to become connected with the other learners within the course. Trust develops among the students, allowing more meaningful discussion and collaboration. Teacher presence as a facilitator in the course enables students to share ideas and opinions with each other with the guidance of the instructor. Community develops when students find shared interests and learn to work with each other toward shared goals. Technical tools and strategies
using the LMS can enhance communication in the online course, allowing students to interact with each other in a variety of formats.

This review of the literature suggested several importance concepts inherent within the online teaching environment that may influence student feelings of isolation and the development of community. These are the development of social presence, the development of trust, student interactions, robust learning communities, the instructor’s role within the course, and the various technical tools available. Chapter 3 includes the methodology for this study, in order to guide the development of an implementation plan for developing community.
CHAPER 3: METHODOLOGY

Introduction to Design

Before an implementation plan was designed for developing a sense of community within online courses, several variables were analyzed to determine student perception of community within online courses. The results of the analysis drove the development of the implementation plan and the goals of that plan. This chapter outlines the following: (a) hypotheses; (b) population and sample; (c) unit of analysis; (d) variables; (e) data collection; (f) survey method; (g) testing methodology; (h) limitations; and (i) ethical considerations.

The purpose of this analysis was to investigate factors that may lead to the development of community in online classrooms. From the results, a plan was developed based on best practices that may enhance this sense of community. The implementation plan will guide university faculty members in the development of undergraduate, non-cohort, online core courses that foster the growth of a sense of community within the online classroom. Online education is a growing facet of education, and it is important for virtual classrooms to encourage a sense of community among the students in order to engage the students and to create a supportive educational community. The study used a survey to measure the relationship between communication types and the development of a sense of community. At the same time, the study explored the perception of community using an open-ended question within the survey. Combining both quantitative and qualitative data allowed the researcher to converge quantitative results of the survey with the qualitative student opinion data in order to develop an implementation plan that enhanced the sense of community in online courses.

Through the analysis of the literature, important themes emerged as critical components of community building. As social presence develops, it allows students to connect with the other
learners in the course, increasing interactions among the students. Trust begins to develop, creating meaningful discussions of the course topics and encouraging collaboration among the students. As trust develops and interactions increase, a sense of community develops among the students. This sense of community creates a classroom environment that is meaningful for the students. Students feel connected to the other learners in the course as they work toward their shared classroom goals and as they share their own experiences. The course instructor has a critical role as they facilitate the course and create opportunities for community development to occur. Various technical tools and strategies enhance the interactions of the students. Synchronous and asynchronous communication techniques allow the students various opportunities to interact with each other. Collaboration and interaction occur through the communication techniques utilized within the online course. The study investigated this theoretical path of relationships in this analysis.

**Research Question**

What is the effect of various communication techniques on students’ sense of community in online courses?

**Hypotheses**

As social presence develops within an online course, interaction among students increases and trust develops. The literature indicates a relationship between the development of a sense of community and the variables of trust and interaction. As trust and interaction develop and increase, so does the sense of community within the course. The instructor’s presence along with the various tools available, may support this community development.
H1: Students who trust their fellow classmates will tend to feel less isolated than those who do not.

Through the literature, trust emerged as a major factor in the development of relationships in online courses. Trust allows students to feel confident in their participation in the course, allowing them to make connections to other students. When these connections form, the sense of isolation will decrease.

H2: Students who participate in class discussions frequently will tend to feel less isolated than those who participate less frequently.

Class discussions are an important part of communication among the students and the instructor. Discussions allow students to interact with each other and share their feelings and experience, allowing the development of relationships with other students.

H3: Students who receive more feedback from instructors will tend to feel less isolated than those who receive less feedback.

In online courses, accessibility is critical. Instructors are responsible for facilitating the course through feedback and involvement in discussions. Students may feel more connected to the instructor when they receive timely feedback.

The above hypotheses will be utilized to test the theories found through the literature review. These hypotheses are testable implications of the processes implied by the scholars through the review of the literature. The hypotheses focus on the effects of the independent variables of trust and participation on the dependent variables of sense of community and feelings of isolation. The independent variables of instructor feedback and course length will give more depth to the research.
Population and Sample

The population for this study was undergraduate, non-cohort students in online courses. The sample will include undergraduate, online students from one small, private university in the Midwest. The survey did not require identification, so all submissions were anonymous. No personal information was collected with the survey. The results were stored in a secure spreadsheet, and no individual results were reported.

IRB approval was received prior to conducting any of the research. Approval occurred through both Creighton University and the university where the sample was collected. A letter of agreement was obtained through the site. The major ethical concerns in the study included confidentiality of participants. The individual survey results remained confidential and were not shared with anyone else. The survey did not include any course identification information, so as to ensure the anonymity of the instructors, students, and courses.

Unit of Analysis

The unit of analysis for this study was the individual student. Each student completed the survey in order to determine the sense of community felt by each individual. The individual student also included answers on course length, amount of the course completed, course participation, and an open-ended question on techniques that were helpful. Each of these questions focused on the individual student.

Variables

For this study, the development of a sense of community was the primary dependent variable. The development of community in the online courses was measured using the Classroom Community Scale (CCS) (Rovai, 2002b). Many variables may contribute to the growth of community within the classroom. As demonstrated in the literature, it is important for
students to develop a sense of community within online courses. The level of isolation felt by students was a supplementary dependent variable, as students that feel isolated in a classroom do not feel a high level of community in the course. The independent variables for this study were trust, interaction, weekly participation, and instructor feedback.

The Classroom Community Scale (CCS) was used as the main survey instrument for data collection (Rovai, 2002b). This instrument included 20 statements using a Likert 5 point scale to determine the overall classroom community score as well as the sub scores of connectedness and learning (Rovai, 2002b). The CCS and its scoring guide can be found in Appendix A and B. Included in the survey were questions to measure the number of students in the course, frequency of class discussions, and frequency of instructor feedback. An open-ended question encouraged students to include techniques and tools used in the course that helped them to build relationships leading to community development. These additional survey questions are found in Appendix C.

To measure sense of community, an overall community score was found based on the results of the Classroom Community Scale. The scores of the CCS range from 0-80 points. The higher the score, the stronger the sense of community felt by the individual completing the survey (Rovai, 2002b). To specifically measure the effects of the variables of trust and interaction, four specific items from the scale were assessed. These items included a focus on trust, interaction, connection, and isolation. Examples of the items from the CCS utilized to assess these variables included the following items, which were answered using a Likert five point scale with the options of strongly agree, agree, neutral, disagree, and strongly disagree:

- I do not feel a spirit of community.
- I feel isolated in this course.
- I trust others in this course (Rovai, 2002b p. 209).
Data Collection

The Classroom Community Scale with 20 Likert 5 point scale items was utilized for data collection (Rovai, 2002b). The survey included questions on trust, interaction, isolation, and connectedness among learners. The survey was administered to undergraduate, non-cohort students that had completed at least half of their enrollment period in an online course. At the same time, the study explored the perception of community using an open-ended question with the online students at this university. The purpose of the open-ended question was to receive student perceptions of community within online courses. The reason for combining both quantitative and qualitative data was to better understand this research problem by converging both quantitative results of the survey and qualitative student opinion data.

Survey Method

The intent of this embedded design mixed methods study was to analyze the sense of community within online courses. The study used a survey with Likert scale questions to measure the relationship between trust and interaction and the development of a sense of community within online courses offered at one private university.

All Fall 2015 online courses with an enrollment with more than two students were selected at the institution. All students within each class were asked to participate. A total of 55 students took the survey, out of a possible 321 students, for a response rate of 17%. Some students may have been enrolled in more than 1 course, so they would have received the survey more than once. Because the survey was course-specific, and asked questions directly related to each individual course, students may have responded to more than 1 survey.

An email was sent to all online instructors during the first half of their online course, explaining the purpose of the study and to ask permission to use their courses in the study. Some
of the courses were eight-weeks long, and others were 16-week courses. The researcher utilized the instructors of the courses to contact students and to send the survey. Six weeks after the course began, the instructors emailed the students with an explanation of the study and the students’ right to refuse participation. The following week, students received an email with a link to the survey. Qualtrics, an online survey program, was used to administer the survey questions and to obtain an anonymous sample from the individuals selected. For the qualitative response, the participants answered an open-ended question at the conclusion of the survey. Students received a reminder one week after the initial email was sent out. The survey remained open for one week following the reminder email.

Testing Methodology

Once the data were gathered, the statistical software MiniTab, along with Excel, was used to analyze the quantitative portion of the data. Some demographic data were included in the survey to allow correlations on these data if applicable.

To assess the results of the CCS, an ordered logit was conducted. This statistical method allowed for the analysis of the dependent variable, which was an ordinal variable with Likert 5-point scale. The ordered logit allowed for the independent variable to take on any form, including nominal, ordinal, or continuous data. The ordered logit included the odds ratio for the data, and allowed for the researcher to assess the effects of the independent variables on the dependent variables. The purpose of the ordered logit, or logistic regression, was to assess the effect of increases in the independent variables on the likelihood of observing a particular value of the dependent variable (Cannon et al., 2013). In other words, as the independent variable increases, the ordered logit provided an estimate of the likelihood of observing a specific number, one through five, from the Likert Scale.
The open-ended question was analyzed for the emergence of themes. This information allowed students an opportunity to explain their feelings and opinions on the certain techniques used and how they felt about the sense of community developed in the course. The qualitative data were used for anecdotal evidence. An embedded approach was utilized, so the qualitative data were used to support the quantitative data. Because the qualitative data were anecdotal, it allowed for a richer understanding of context of some of the quantitative results.

**Limitations**

One limitation of the study was the small sample size used for the survey. This survey was administered to students at a single private university. The response rate of 17% was somewhat low. With the small size of the university, many of the students may have been enrolled in multiple online courses with the same individuals. Due to the small sample size, the results may not be representative of the entire population. A larger sample group that included other universities would have offered greater depth to the study.

Another limitation was not including a study question on pre-existing relationships. The question was excluded due to the small sample group, but would be an important factor for further research. In a small university, students in the same degree program may take many courses with the same classmates. The courses included in the study were all undergraduate courses. Due to the small size of online courses offered, several of the courses utilized in the survey were not general education core courses. Including these courses allowed for a larger sample group, but may have affected the data as students may be in a cohort group of students.

**Ethical Considerations**

Even though the risk of ethical issues for this study was perceived to be low, the researcher took precautions to ensure that the chances for ethical issues were avoided or
minimized. Great care was taken to ensure the anonymity of all the participants within the study. Names were not recorded in the survey. The researcher used Qualtrics to administer the survey, and the IP address tracking was disabled to ensure that results could not be traced back to individual participants. The course instructors distributed the surveys to the students through email, therefore student identity was safe-guarded. Instructor anonymity was also critical in the survey administration. Participants were not asked to include any identifying class information so as not to identify the instructor based on the responses. Permission from the Institutional Review Boards from both Creighton University and the university studied were received before the study was conducted.

Summary

The development of a sense of community was the main dependent variable in this study. The level of isolation, student participation, trust development, student interaction, and instructor feedback were reported using the Classroom Community Scale. The emailed survey included additional demographic questions and an open-ended question. Chapter 4 will include a full analysis of the data and how the data supports or rejects each research hypotheses.
CHAPTER 4: DATA ANALYSIS

Introduction

As discussed in Chapter One, this study investigated the variables in online courses that may have a relationship to reduced feelings of isolation and the development of a sense of community in online courses. The chapter is organized using the hypotheses developed in relationship to the given research question. The chapter outlines the hypotheses and the data from the research that supported or rejected each hypotheses. The three hypotheses are (1) Students who trust their fellow classmates will tend to feel less isolated than those who do not; (2) Students who participate in class discussions frequently will tend to feel less isolated than those who participate less frequently; (3) Students who receive more feedback from instructors will tend to feel less isolated than those who receive less feedback.

Participants

An online survey was developed using Qualtrics Survey Software and was administered to undergraduate students in Fall 1 online courses at a small, private, Midwestern university. A total of 321 surveys were emailed to students through their instructors. Some students may have received the survey invitation more than once if they were enrolled in more than one online course in the Fall 1 term. Of these surveys, 55 were completed for analysis, with a response rate of 17%. The students included in the survey were all undergraduate students. Some students were traditional undergraduate students enrolled in a general education course online. Other students were part of the online bachelors of nursing program, and may have received the survey through one, or more, of their program courses.
Classroom Community Scale

The sample group completed the Classroom Community Scale (CCS), which determined their overall sense of classroom community score (Rovai, 2002b). The CCS is a reliable measure of classroom community, with a Cronbach’s coefficient $\alpha$ of .93 (Rovai, 2002b). The survey administered in this study had a Cronbach’s coefficient $\alpha$ of .9311. The CCS raw score can vary from a minimum of 0, meaning no sense of community, to a maximum of 80.

Table 1

*Classroom Community Scale Raw Scores*

<table>
<thead>
<tr>
<th>CCS Score</th>
<th>n</th>
<th>$\bar{x}$</th>
<th>(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCS Score</td>
<td>53</td>
<td>52.49</td>
<td>12.67</td>
</tr>
</tbody>
</table>

As depicted in Table 1, the average CCS score for the sample group was 52.49, so slightly above a neutral community score. The scores had a fairly large standard deviation, indicating a large variation in overall scores. As indicated in Figure 1, the distribution of the overall CCS scores was fairly normal. The graph indicates one extremely low score and two perfect scores.

*Figure 1.* Frequency histogram of overall Classroom Community Scale scores.
The CCS also included subscale raw scores for both connectedness and learning. Connectedness is the social community, and includes the participants’ feelings about their connectedness and trust among each other. The learning subscale includes the learning community and includes the participants’ feelings about their interaction with each other as they develop their knowledge and understanding and work toward shared learning goals (Rovai, 2002b). These raw scores range from a minimum of 0 to a maximum of 40.

Table 2

*Subscale scores in Connectedness and Learning*

<table>
<thead>
<tr>
<th>Subscale Scores</th>
<th>CCS subscale</th>
<th>n</th>
<th>( \bar{x} )</th>
<th>(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectedness</td>
<td>53</td>
<td>24.86</td>
<td>7.29</td>
<td></td>
</tr>
<tr>
<td>Learning</td>
<td>53</td>
<td>27.53</td>
<td>6.22</td>
<td></td>
</tr>
</tbody>
</table>

As Table 2 indicates, the connectedness and learning subscales had almost the same mean scores and very similar standard deviations. The histograms in Figure 2 and Figure 3 show similar distributions between connectedness and learning, as both indicate fairly normal distributions. There is slightly more variation in the connectedness score, but both learning and connectedness have similar mean scores.

*Figure 2.* Frequency histogram of the connectedness sub scores from the CCS.
The sub scores of connectedness and learning offer some insight into the relationship between the sense of community in online courses and the learning community developed within the course. The Pearson correlation coefficient between these two subscales was calculated. The correlation coefficient was .759 with a \( p \)-value of .000. These values indicate a strong, positive correlation between the connectedness subscale and the learning subscale. Figure 4 depicts this relationship and indicates a positive linear association.

Figure 3. Frequency histogram of the learning sub scores from the CCS.

Figure 4. Scatterplot with the connectedness sub score as the independent variable and learning sub score as the dependent variable.
Hypothesis 1

Students who trust their fellow classmates will tend to feel less isolated than those who do not.

As discussed in the literature review, trust is important for building and developing relationships in the online classroom. The survey indicated whether students felt they trusted others in the course. A rating of 4 indicated that they strongly agreed and 0 meant they strongly disagreed with the statement. The survey also had students indicate if they felt isolated in the course. This question was weighted in reverse, with a 4 indicating they strongly disagreed with this statement and a 0 meaning they strongly agreed. An ordered logit was conducted with isolation as the dependent variable, as shown in Table 3. The dependent variable of isolation is an ordinal variable, with a larger rating indicating a lesser degree of isolation.

Table 3

Ordered Logit with “I feel isolated in this course” as the dependent variable

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Coefficient</th>
<th>SE Coefficient</th>
<th>p-value</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly number of discussion posts</td>
<td>-.333</td>
<td>.382</td>
<td>.384</td>
<td>.72</td>
</tr>
<tr>
<td>Level of Trust</td>
<td>-2.117</td>
<td>.641</td>
<td>.001*</td>
<td>.12</td>
</tr>
<tr>
<td>Timely Feedback</td>
<td>-.560</td>
<td>.426</td>
<td>.189</td>
<td>.57</td>
</tr>
<tr>
<td>Length of Course</td>
<td>0.171</td>
<td>.137</td>
<td>.213</td>
<td>1.19</td>
</tr>
<tr>
<td>Percent of Course Completed</td>
<td>2.097</td>
<td>2.072</td>
<td>.312</td>
<td>8.14</td>
</tr>
<tr>
<td>Number of Students in Course</td>
<td>-.031</td>
<td>.069</td>
<td>.657</td>
<td>.97</td>
</tr>
<tr>
<td>Constant 1</td>
<td>1.935</td>
<td>3.765</td>
<td>.607</td>
<td></td>
</tr>
<tr>
<td>Constant 2</td>
<td>3.045</td>
<td>3.782</td>
<td>.421</td>
<td></td>
</tr>
<tr>
<td>Constant 3</td>
<td>7.668</td>
<td>3.989</td>
<td>.055</td>
<td></td>
</tr>
</tbody>
</table>

*Note. *p<.05

Table 3 indicates a significance between the level of trust students reported and whether they felt isolated in the course. The coefficient of -2.117 indicates that as the independent variable of trust increases by 1 score, a respondent is two times less likely to report less isolation.
Table 4

*Ordered Logit with “I do not feel a spirit of community” as the Dependent Variable*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Coefficient</th>
<th>SE Coefficient</th>
<th>p-value</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly number of discussion posts</td>
<td>-.557</td>
<td>.363</td>
<td>.126</td>
<td>.57</td>
</tr>
<tr>
<td>Level of Trust</td>
<td>-1.647</td>
<td>.545</td>
<td>.003*</td>
<td>.19</td>
</tr>
<tr>
<td>Timely Feedback</td>
<td>.365</td>
<td>.369</td>
<td>.323</td>
<td>1.44</td>
</tr>
<tr>
<td>Length of Course</td>
<td>.241</td>
<td>.125</td>
<td>.055</td>
<td>1.27</td>
</tr>
<tr>
<td>Percent of Course Completed</td>
<td>1.784</td>
<td>1.848</td>
<td>.334</td>
<td>5.95</td>
</tr>
<tr>
<td>Number of Students in Course</td>
<td>.041</td>
<td>.059</td>
<td>.486</td>
<td>1.04</td>
</tr>
<tr>
<td>Constant 1</td>
<td>-4.333</td>
<td>3.448</td>
<td>.209</td>
<td></td>
</tr>
<tr>
<td>Constant 2</td>
<td>-3.026</td>
<td>3.406</td>
<td>.374</td>
<td></td>
</tr>
<tr>
<td>Constant 3</td>
<td>-1.529</td>
<td>3.407</td>
<td>.654</td>
<td></td>
</tr>
<tr>
<td>Constant 4</td>
<td>1.724</td>
<td>3.402</td>
<td>.612</td>
<td></td>
</tr>
</tbody>
</table>

*Note. *p*<.05.

Table 4 also indicates a significance between level of trust and the spirit of community felt within the online classroom. The survey indicated whether students felt they trusted others in the course. A rating of 4 indicated that they strongly agreed and 0 meant they strongly disagreed with the statement. The survey also had students indicate if they did not feel the spirit of community within the course. This question was weighted in reverse, with a 4 indicating they strongly disagreed with this statement and a 0 meaning they strongly agreed. The coefficient of -1.647 indicates that as the independent variable of trust increases by 1 score, the respondent is almost two times less likely to report that they feel a spirit of community.

**Hypothesis 2**

*Students who participate in class discussions frequently will tend to feel less isolated than those who participate less frequently.*

As discussed in the literature review, class participation is important for building and developing relationships in the online classroom. The survey indicated the frequency of discussion postings for each student. A rating of 4 indicated that they strongly agreed and 0 meant they strongly disagreed with the statement. The survey also had students indicate if they
felt isolated in the course. This question was weighted in reverse, with a 4 indicating they strongly disagreed with this statement and a 0 meaning they strongly agreed. An ordered logit was conducted. As shown in Table 3, the \( p \)-value was .384, indicating that there was not a significant relationship between the frequency of discussion posts and feelings of isolation.

An ordered logit was conducted with spirit of community as the dependent variable to determine if there was a relationship between frequency of discussion posts and the spirit of community felt by the participants. The survey had students indicate if they did not feel the spirit of community within the course. This question was weighted in reverse, with a 4 indicating they strongly disagreed with this statement and a 0 meaning they strongly agreed. As shown in Table 4, the \( p \)-value was .126, indicating that there was not a significant relationship between frequency of discussion posts and participants reporting a spirit of community.

**Hypothesis 3**

*Students who receive more feedback from instructors will tend to feel less isolated than those who receive less feedback.*

As discussed in Chapter One, it is important for the instructor to promote community development within the online course. The role of the instructor is to act as a facilitator to guide students in their learning. Quality instructor feedback is important to students within the online classroom (Dennen et al., 2007). As indicated in Table 4, with a \( p \)-value of .323, there is no significant relationship between timely feedback and the feelings of a spirit of community. Table 3 also indicates, with a \( p \)-value of .189, that there is not a significant relationship between timely feedback and the sense of isolation felt within the online course.
Other Results

To interpret the ordered logistic regression results, an alpha of .05 was used as the standard level of significance. In Table 4, with spirit of community as the dependent variable, and length of course as a predictor, a p-value of .055 was indicated in the results. These results approached significance at the 5% level. The survey had students indicate if they did not feel the spirit of community within the course. This question was weighted in reverse, with a 4 indicating they strongly disagreed with this statement and a 0 meaning they strongly agreed. Course length was given in number of weeks, either 8 weeks or 16 weeks. The coefficient .241 indicates that as the independent variable of course length increase by 1 score, the respondent is .24 times more likely to report that they did feel a spirit of community.

Quantitative Summary

The data analysis included two models, each with its own dependent variable, sense of isolation and spirit of community. The trust variable reported a significant, but negative, result in each model. In the second model, with spirit of community as a dependent variable, course length approached significance at the 5% level. According to the ordered logit results, as indicated in Table 3 and Table 4, there were no other statistically significant relationships among the variables tested.

Additional Survey Comments

At the conclusion of the survey, participants were asked to include specific course requirements, coursework, techniques, and/or tools that helped them build relationships with other students and the instructor in their online course. For this question, 27 students responded. This question was used by the researcher for anecdotal evidence because the sample size was small. The results of this question gave interesting insight into what the online instructors at this
specific university were using to promote the development of a community of learners. The top three comments were included in these results, because they had more than two students respond. The top comment included the use of discussion posts and forums. This classroom tool was mentioned in 13 survey responses. One student commented, “The required discussion posts have most helped me build relationships with other students and the instructor in this course.” Participating students discussed the requirement to respond to a certain number of other posts, as well as the encouragement and feedback given to them by other students in the course. It was mentioned that the instructors were not involved in the discussion postings, but that was due to the discussion being used to assess learning.

The second course requirement that students deemed helpful in developing a sense of community were the partner projects or team assignments required for the course. This type of assignment was included in six of the survey responses. One student responded, “Team assignments give us the opportunity to work together.” It was also noted that it can be difficult to complete online assignments with groups.

The third course tool that students found useful in developing a sense of community was synchronous forms of communication. Four students responded with various synchronous tools, including: chat rooms, café’s, instant messaging, and Skype services. Courses included a list of students online at the same time, which allowed students an opportunity to connect synchronously with their classmates.

Analysis and Synthesis of Findings

The overall research question for this study asked: what is the effect of various communication techniques on students’ sense of community in online courses? The purpose of this study is to measure the relationship between communication types and the development of a
sense of community in online education at a small, private institution. The overall quantitative analysis was fairly inconclusive. A relationship was found between trust and both isolation and spirit of community felt within the online courses. The results of the ordered logistic regression were surprising, given the research gathered and discussed in the literature review. The findings from this sample group indicated that as trust increased within the course, isolation also increased while the spirit of community decreased.

The question on trust within the survey was stated as, “I trust others in this course”. The question did not specify if the trusting relationship was formed with other students in the course, with the instructor, or as an overall trusting environment. These results may have indicated that the participants trusted their fellow students, but may not have developed trust with the instructor. This result could be reversed as well, meaning the students trusted their instructor, but did not build trusting relationships with the other students in the course.

Academic performance may also affect feelings of isolation and community within the course. Students may feel that they trust the other students, but do not feel that they have the ability to compete academically with the other students in the course.

No significant relationship was found between instructor feedback and the levels of isolation and feelings of community. This result was unexpected, based on the results of the literature review, which stressed the importance of instructor feedback. Even though the results did not indicate a significant relationship between feedback and sense of community, good practice dictates that instructors give quality feedback to students in both online and traditional classrooms. With a larger sample group, it would be interesting to see if significance would be found in this relationship.
The frequency of discussion postings did not have a significant relationship with isolation and community, but the importance was stressed in the literature review. The qualitative question on the survey also included many comments about discussion postings and their importance in increasing the level of community within the course. The anecdotal evidence offered some insight as to what tools and techniques within online courses were most helpful for students in developing a sense of community. With such a small sample group, the results are not significant, but do demonstrate some of the features within online courses that may be helpful in community development within these courses.

Summary

The survey results showed a strong relationship between connectedness and learning. Other results indicated a significant relationship between trust and the variables of sense of community and feelings of isolation. As trust increased, the sense of community decreased and feelings of isolation increased. The relationship between course length and sense of community approached significance, indicating that the students enrolled in 16-week online courses perceived higher levels of community compared to those in 8-week courses. Students indicated the importance of discussion posts, group activities, and various forms of communication within online courses. Chapter 5 will discuss the implementation of a faculty development unit based on the results of the data analysis.
CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

Introduction

This study investigated the variables in online courses that may have a relationship to reduced feelings of isolation and the development of a sense of community in online courses. The Classroom Community Scale (Rovai, 2002b) was administered to online, undergraduate students at a small, private, Midwestern university. The aim of this analysis was to develop an implementation plan to guide university faculty members in the development of undergraduate, non-cohort, online core courses that foster the growth of a sense of community within their online classrooms.

The results of the ordered logit analyses were surprising and will be discussed in further detail in this chapter. Significant statistical relationships were found within the data, indicating variables that have an effect on levels of isolation and sense of community within online courses. This chapter will include a discussion of the current online instructor education program implemented at the university with the addition of a faculty development unit on community development. The new unit will include education on trust development, collaboration, and the communication techniques available to instructors. The challenges involved in the implementation of the new faculty development unit will be discussed. The chapter includes the timeline for implementation and how the program will be evaluated once it is implemented.

Summary of the Study

This study explored several variables and their relationship to developing a sense of community and reducing the feelings of isolation in online courses. The intent of this analysis is to develop an implementation plan to guide university faculty members in the development of undergraduate, non-cohort, online core courses that foster the growth of a sense of community
within the online classroom. As higher education is experiencing a significant increase in online courses, it is important to develop courses that support the development of learning communities. The researcher hypothesized that the development of trust within an online course can significantly decrease students’ feelings of isolation. The researcher also hypothesized that students who participate in class discussions and receive timely feedback from instructors will feel less isolated within the course.

As discussed in Chapter One, students indicated that the lack of community within their online courses created a challenge to the learning environment (Song et al., 2004). Some argued that student interaction with their teachers, participation within the course, and interaction with their classmates, can have a large influence on student learning (Fredericksen et al., 2000; Hrastinski, 2009; Morris et al., 2005; Ouzts, 2006; Vonderwell & Zechariah, 2005). It is the instructor’s responsibility to facilitate the course and to encourage participation and interaction among the students (Rovai, 2001; McAllister, 2009; Vonderwell & Zachariah, 2005). Instructors can utilize both synchronous and asynchronous communication methods to facilitate the online course and to encourage student participation and interaction (Jones, 2011; McNeil et al., 2000; Oztok et al., Singh et al., 2010).

The study used a mixed method methodology, which consisted of collecting quantitative data to answer the research question, with an open-ended question to offer insight into students’ responses. The research question for the study asked if specific communication techniques significantly increase the sense of community for students in online courses. The current study identified the following variables that may have a relationship to reducing isolation and increasing a sense of community within online courses: (a) level of trust, (b) number of students
in the course, (c) percent of course completed at time of survey, (d) length of the course, (e) timeliness of instructor feedback, and (f) frequency of individual discussion posts.

The data indicated a strong, positive relationship between connectedness and learning sub scores within the CCS. As students became more connected within the course and developed relationships with other students, the perceived learning community within the course also increased. Students perceived a strong relationship between both the social community and learning community within their online courses.

The results of this study indicated a significant relationship between trust and the development of a sense of community and on students’ sense of isolation. The results indicated that as the trust variable increased, the sense of isolation increased and the spirit of community decreased. These results were surprising given the research conducted in Chapter Two, where many sources noted the significance of trust on community development. The sample size used for the survey was small, so a larger sample size may show different results. The question on trust within the survey was stated as, “I trust others in this course”, and did not specify if the trusting relationship was formed with other students in the course, with the instructor, or as an overall trusting environment. The measurement tool used in this study, the CCS, did not control for the factor of instructor-to-student and student-to-student trust.

Academic performance may also affect feelings of isolation and community within the course. Students may feel that they trust the other students, but do not feel that they have the ability to compete academically with the other students in the course. Students may see the success of other students and feel that they are at a lower level academically. Even though they trust the other students, they may feel isolated because they are not as confident in their ability to collaborate in the course at the same level as the other students. The CCS did not control for the
variables of academic competition or for student perception of their academic skills compared to the others in the course.

The literature also suggested that the length of the course could have a positive relationship to the spirit of community felt in the course. The results of the survey indicated that as the length of the course increased, students’ sense of community showed a slight increase. The university used in this study offers online courses in both 8-week and 16-week sessions. The students enrolled in the 8-week courses were at the end of their course when the survey was administered, but had been enrolled in the course for the same number of weeks as those in the 16-week courses. The results indicated that students enrolled in longer online courses felt a higher sense of community. The 16-week courses tend to move at a slower pace compared to similar 8-week courses. At the university utilized in this study, the 16-week courses are usually offered for traditional, undergraduate students. These students are more likely to know the other students in the course, as well as to have participated in traditional classes with each other.

**Aim of the Study**

The aim of this study was to develop an implementation plan to guide university faculty members in the development of undergraduate, non-cohort, online core courses that foster the growth of a sense of community within the online classroom. The Classroom Community Scale was used to assess community development in the course (Rovai, 2002b). Qualitative data included information on effective techniques and tools to increase a sense of community in online courses. These data were used as anecdotal evidence to support the quantitative findings. The quantitative data, with the support of the qualitative data, were used to develop an implementation plan for enhancing community development in online courses.
Classroom Community Scale

The Classroom Community Scale (CCS) was used as the main survey instrument for data collection within this study (Rovai, 2002b). The survey instrument included 20 statements using a Likert 5-point scale to determine the overall classroom community score as well as the sub scores of connectedness and learning (Rovai, 2002b). Additional questions were added to the survey, which included the number of students in the course, frequency of class discussions, length of the course, percent of course completed, and frequency of instructor feedback. A final open-ended question encouraged students to include techniques and tools used in the course that they perceived were helpful in building relationships and encouraged community development.

The CCS was developed to measure the sense of community in online courses. For this study, the overall scores were used, as well as individual questions from the survey. The questions within the survey work well collectively to determine the overall sense of community within online courses, as well as the sub scores for learning and social communities. The survey questions were fairly vague, so when used individually for analysis, students may have had different interpretations of the questions. These unique interpretations may have affected the final results of the data analysis.

Results

The data indicated a strong, positive correlation between connectedness and learning sub scores. These results stress the importance of developing both the learning community and the social community. As a sense of community grows within the classroom, so does the learning community, and vice versa. The strength of the relationship between social and learning community confirms the importance of connecting these two aspects of online courses in order to create a course with a strong sense of community and positive learning environment.
A significant relationship was found between trust and both the level of isolation felt by students and the spirit of community perceived by the individual students. The survey results indicated that as the level of trust increased, so did the sense of isolation felt by students. Similarly, as trust increased, the spirit of community perceived by students decreased. These results were unexpected, given the research previously conducted on this topic. These surprising results are important in determining how best to teach instructors on trust development in their creation of online courses.

The literature indicated that instructor feedback was important for developing a sense of community within online courses. The data analysis did not find a significant relationship between instructor feedback and the feelings of a spirit of community. There also was not a significant relationship between timely feedback and the sense of isolation felt within the course.

The length of the online course was included as a control variable in the study. The results of the data analysis found that the length of online courses may have a relationship with the sense of community found within the courses. The data indicated that as the length of the course increased, there was a slight increase in feelings of community. The course length options were 8-week and 16-week courses. The results showed that the students enrolled in the 16-week courses felt a higher sense of community.

The anecdotal evidence depicted the importance of various communication techniques in online courses. Students commented on various types of communication tools within the classroom and highlighted the importance of both synchronous and asynchronous communication within their online classroom experience. Online students also perceived group or partnered work assignments to be important learning activities.
These findings suggest that current curriculum plans are inadequate in viewing students in a holistic manner. Within the framework of individual courses, trust and community development are less likely to be emphasized in online courses. The following section will introduce a proposed implementation plan for educating instructors on designing courses that emphasize social community development along with the current learning community.

**Proposed Implementation Plan**

Based on the data analyzed within this study, the researcher would like to propose the following implementation plan. Even though the data results were unexpected, the review of the literature and the survey results offered insight into techniques that may be successful in developing a sense of community within online classrooms. The proposed implementation plan will include an additional week of faculty development for future online instructors. The current three weeks of the online faculty development course will remain, but an additional week will be added to focus solely on the development of community within the courses.

The proposed faculty development unit will be created to assist faculty members in their development of online courses that foster the sense of community within the learning environment. The unit will focus on education of the faculty members about the importance of community development and techniques that could be utilized within their course development to encourage a sense of community. The development will include opportunities for instructors to participate in synchronous and asynchronous activities in order to give them exposure to community building tools in their courses. The focus on the unit will be on trust development through the tools available in the course. The following sections will elaborate on the components of the implementation plan in greater detail, along with the key players and evaluation of the implementation plan.
Current Online Teacher Education

The university utilized in this study conducted a complete overhaul of its online instructor education course within the past 5 years. The current course was revised in December, 2014. The university uses two separate learning management systems (LMS) depending on the program in which students are enrolled. Traditional undergraduate students complete their online courses in the same LMS as their in-classroom courses. Students enrolled in the online bachelor programs complete their courses in a separate LMS system.

The current online instructor course places most of its emphasis on using the LMS platform and the tools available. The purpose of the course is to educate the online instructors on the usability of the LMS platform. The course involves screenshots and examples of the tools available to the instructor and students. Instructors are required to complete several assignments, most of which are discussion forums. The course takes 3 weeks to complete, with approximately 6 hours of required coursework per week for the online instructors.

The course does mention community development and the use of both synchronous and asynchronous tools. Two of the course’s objectives focus on community development. These include using course discussion tools to build class community and using the communication and collaboration tools available within the LMS. The importance of community development is not explicitly stressed within the online instructor course. The goal of this implementation plan is to place an emphasis on community development in order to better achieve the objectives laid out in the current online instructor course.

Social Community vs. Learning Community

The results. The data indicated a strong, positive relationship between connectedness and learning sub scores. The CCS included an overall sense of community score, which can be
divided into the subscale raw scores for both connectedness and learning. Connectedness is the social community, and includes the participants’ feelings about their connectedness with the other students and their perception of trust among the learners in the course. The learning subscale consists of the learning community and includes the participants’ perception of their interactions with each other as they develop their content knowledge to work toward shared learning goals (Rovai, 2002b).

**Plan elements related to social community and learning community.** In order for the implementation plan to be successful, faculty members must first understand how a sense of community within online courses affects the actual learning within the course. This component of the plan will be important in gaining faculty buy-in of the plan and its proposed course changes. At the beginning of the unit, the instructors will be required to pick a peer-reviewed journal article that discusses the importance of developing social community on student learning. Instructors would then be required to write a reflective discussion post on their article and its application to their future online course. Follow-up posts would also be part of the assignment in order to further discussion among the instructors in the online faculty development course.

**Trust Development**

**The results.** Through the data analysis, a significant, strong, positive relationship was found between the social community and the learning community. These results indicate the importance of connecting these two facets of online courses in order to create a course with a strong sense of community and positive learning environment. It will be an important task of the implementation plan to educate faculty on the connection between learning and community, and the importance of fostering relationships in order to increase student’s academic success within online courses.
The data analysis indicated a significant relationship between trust and both the level of isolation felt by students and the spirit of community perceived by the individual students. The survey results indicated that as the level of trust increased, so did the sense of isolation felt by students. Similarly, as trust increased, the spirit of community decreased. These results may have indicated that the participants trusted their fellow students, but may not have developed a sense of trust with the instructor. This result could be reversed as well, meaning the students trusted their instructor, but did not build trusting relationships with the other students in the course. The survey instrument may not have given an accurate depiction of overall trust within the course. These results indicated that other variables that affect isolation and a spirit of community were not represented in the overall survey results.

The relationship between trust and both isolation and spirit of community were surprising results based on the literature. If the CCS accurately depicted the level of trust felt by students within the course, then the data analysis would indicate an increase in the sense of isolation felt by these students and a decrease in the sense of community experienced within their online courses. These results could occur as students develop trusting relationships with only a few students within the course. As these relationships develop, students may feel more isolated from the students outside of these relationships. As trust increases within these smaller groups of students, students may not feel that the overall course is fostering a sense of community.

**The plan elements related to trust development.** The proposed implementation plan will focus on developing trust between the instructor and students, and developing trust among the students. In the online faculty development course, instructors will share their experiences in online courses, with the topic of discussion focusing on relationships built within the course and how trust developed. During this discussion, former student quotes will be included to
demonstrate what was helpful in their online courses. The focus of this discussion will be the sharing of past experiences, as well as tools and techniques that have been successful in developing community among learners.

Course assignments that require students to work with partners or teams were also deemed important by the students in their survey responses. The implementation plan will include suggestions on creating these activities to allow students to work with a diverse group of individuals through online communication tools. An emphasis will be placed on developing trusting relationships through group activities.

Collaboration

The results. The survey results indicated that students found group or partnered work assignments to be important learning activities. Even though this evidence is purely anecdotal due to a small sample size, many students within the study commented on the importance of group work in their online courses. The literature also indicated the importance of collaboration in online courses. Collaboration may be difficult due to differing time zones, work schedules, and other conflicts, but it allows students to work with a variety of different individuals. Group projects encourage students to use various forms of synchronous and asynchronous communication to work toward a shared learning objective with a diverse mix of students.

The plan elements related to collaboration. The implementation plan will include suggestions on creating group activities to allow students to work with a diverse group of individuals through online communication tools. An emphasis will be placed on developing trusting relationships through group activities.

The faculty development program will also include a collaborative project, allowing the instructors to work in teams. The instructors will be encouraged to utilize the various tools, both
synchronous and asynchronous, available to them in the LMS platform. The project will involve the instructors developing a week-long unit for a real or imaginary online course. The unit must include at least one synchronous and one asynchronous communication tool. Within the unit, a collaborative activity should also occur. This collaborative project will give instructors an opportunity to see the challenges and positive outcomes experienced by students when they are assigned collaborative activities in online courses. It will also allow instructors to work together to develop a unit through the sharing of ideas and strategies.

Communication Techniques

The results. The anecdotal evidence depicted the importance of various communication techniques in online courses. Students commented on various types of communication tools within the classroom including discussion posts, blogs, chat rooms, café’s, instant messaging, and video conferencing. This sample group demonstrated the importance of both synchronous and asynchronous communication within the online classroom.

The plan elements related to communication techniques. The proposed faculty development unit will include educating faculty members on the various communication tools available to them. It will be important to demonstrate the strengths and weaknesses of both synchronous and asynchronous communication methods. The proposed unit will encourage faculty members to include both forms of communication within their courses.

As demonstrated in the activities included in the new online orientation unit, various forms of communication will be utilized. The instructors will be exposed to various communication tools available to them. Not only will the unit educate the instructors on the tools and how to use them, but will expose them to the tools through activities in the course. Instructors will work on a collaborative project, they will chat with each other at a designated
time, they will use video-messaging in their group activity, and will complete a discussion post with follow-up posts each week.

The analysis revealed the importance of utilizing a variety of communication techniques within online courses. Currently, the university educates instructors on how to use the various communication tools, but not how to implement the tools with a focus on community development. The implementation plan will include an educational unit that will require instructors to participate in the various communication tools and activities available to them within the online course platform.

**Education on Trust Development**

The data and research indicated that an important area of online classroom reform involves the development of trust. The literature analyzed indicated the importance of trust development among the students and between the students and instructor in the course. This study found a negative relationship between trust and community, but as noted, students may have answered the question with only one type of trust from their viewpoint. For example, students may have developed a trusting relationship with other students in the course, but not with the instructor. Due to this lack of trust with the instructor, students may have felt isolated because they did not want to contact the instructor for help. Other similar scenarios may have occurred also, as this example is purely speculation based on this study’s results that differed from the literature review results.

This research study, along with the literature, determined a significant relationship between trust and the development of community within online courses. These results indicate the importance of educating online instructors on the development of trust within online courses. In order to accomplish this task, it will be imperative to revise the online instructor course to
include education on the importance of developing a sense of community through trust development in online courses.

Learning communities do not necessarily develop naturally in online courses. Instructors need to find ways to promote interaction among students in order to develop trust and community. A major addition to the online instructor course involves teaching the instructors how to encourage student interaction and collaboration with the intent of developing trust among the students and between the students and instructor.

Introductory posts are encouraged in the current online instructor course. In addition to these posts, the new faculty development program will include elaborating on these initial introductions in order to build trust and develop relationships within the course. The current course includes information on discussion posts and utilizing those weekly within the online course. In addition to the required student participation in discussion forums, it will be critical to teach instructors how to interact with students in these forums as well. The instructor is a facilitator of the course, but should encourage discussion among the students. If an instructor is interacting with students in the discussion posts, students will begin to see the instructor as a real person and begin to trust him or her. The development of trust between the instructor and student may decrease the sense of isolation felt by students.

Synchronous communication between the instructor and students also helps students get to know each other and the instructor. In the faculty development program, instructors will be educated on these various tools, but will be encouraged to conduct weekly team meetings. Through the faculty development program, instructors will learn how to encourage student interaction within the course’s synchronous communication tools. Since online courses need to be flexible, and it is difficult to have required synchronous sessions, the chat or video may be
recorded to share with the students who were unable to participate. Instructors will be encouraged to vary their scheduling of these synchronous sessions in order to include as many students as possible.

The analysis revealed the importance of educating online instructors on the development of trust within online courses. Currently, the university educates instructors on how to use the various communication tools, but does not emphasize the importance of these tools in developing trust among learners. The implementation plan will include an educational unit that will require instructors to participate in various communication tools and activities available to them within the online course platform in order to experience both synchronous and asynchronous communication methods. Instructors will be educated on synchronous communication tools and methods for using these tools in their online courses to better develop a community of learners. Instructors will be educated on participation in discussion forums to build trust with the students.

**Technology Tool Education**

The current online instructor orientation includes step-by-step usage of the tools available to implement in the online courses. The two LMS systems utilized at the university include various communication tools, both synchronous and asynchronous. The orientation currently teaches the technical aspect of these tools, along with practice assignments for the instructors to participate in. The instructors communicate with each other through the various tools so that they are aware of different ways the tools can be implemented into their own online courses.

The additional education unit will include the best methods for implementing these communication tools in order to encourage student participation and community building. During the online course faculty development unit, instructors will participate in at least one example of each type of course communication. The instructor of the faculty development
program will demonstrate the role of online instructors through his or her participation in the various communication tools. During these activities, the enrolled online instructors will be encouraged to discuss the challenges associated with each communication method as well as the benefits for the students in the online course. The goal of this first-hand experience is to expose the instructors to the learning experiences their students will encounter.

The analysis revealed the importance of educating online instructors on the development of communication opportunities within the course. Currently, the university educates instructors on how to use the various communication tools, along with the importance of weekly discussion posts, but does not emphasize the importance of synchronous communication. The implementation plan will include an educational unit that will require instructors to participate in various communication tools and activities available to them within the online course platform in order to experience both synchronous and asynchronous communication methods. Instructors will be educated on synchronous communication tools and methods for using these tools in their online courses to better develop a community of learners.

**Roles and Responsibilities of Key Players in Implementation**

The Provost will be given the information and suggestions from the implementation plan, and it will be that person’s responsibility to share the information with faculty if he or she chooses to do so. The researcher’s recommendation is to share this information with faculty members who are currently, or will be in the future, teaching online courses. The purpose of the plan is to give these individuals the information necessary to create online courses that create a sense of community within the learning environment.

Currently, the university requires instructors to take an orientation course before they teach their first online course. The focus of this course is on course development within the
learning management system, as well activities and ideas for use within the online course. The Dean of Adult and Professional Studies administers and facilitates this course. This person would play a key role in incorporating the information from this implementation plan into the orientation course for faculty.

**Evaluation and Timeline for Implementation and Assessment**

The proposed implementation plan was developed based on data from the university that had not been previously studied. The plan is only based on the outcomes from this specific study, so there is potential to develop the plan as the university’s online programs grow. The goal of the implementation plan will be to include information from the research into the online faculty orientation course for the Fall I 2016 term. Since the number of online courses is small, and because many instructors have taught online courses before and do not need the orientation course, the plan will not be assessed until one year of online courses has been completed. After this time-frame, the orientation program will be analyzed and evaluated to determine if instructors feel that it was successful in helping them facilitate an environment where a sense of community could develop. After each term, with the instructor’s permission, students will be given the Classroom Community Scale to analyze the development of community within the online courses. A small sample of these students will be interviewed to determine what techniques were helpful in developing community within the courses.

After the first year of the orientation program, modifications may need to be made to ensure the success of the implementation plan. Changes may need to be made to the overall material in the online orientation course. Alterations to the actual survey administration may need to occur as well, since only new online instructors take the course. Updating all instructors
on new research in online education may be part of a continuing education piece as part of the responsibilities of teaching online courses.

**Convincing Others to Support the Plan**

It will be critical to gain the support of the faculty members teaching online courses. Since online courses are developed entirely before the course begins, it will be important to educate the instructors well in advance of their actual course. It is difficult to gain instructor buy-in to added responsibilities, so the importance of community development will be at the front of all educational components of the plan. Frequently, online instructors view the orientation course as a nuisance. They are trying to develop their online course, and they see the faculty development program as taking time away from that. Adding an additional week to include a unit on community development may be difficult to implement. The online faculty development will include the creation of activities that can be implemented in the instructor’s future courses, which may make the experience more meaningful to those enrolled.

**Internal Implications for the Organization**

The addition of the extra week of faculty development may have an effect on faculty workload. The instructor teaching the course would need an extra week of compensation. The additional week of faculty development would also need to be added to the compensation of the instructors enrolled in the program, as many of these instructors are not full-time university employees and are therefore paid as adjuncts, not on salary. The budgetary implications would need to be approved by the Executive Vice President of the university.

**Further Research**

This study focused on variables that may help develop a sense of community in online classrooms. Further research would include information on pre-existing relationships within the
classes. Many of the students enrolled in the courses involved in this study had past relationships with the other students in the course. Some of the students were from informal cohorts of students that tend to enroll in most of the same courses each term. These students had already developed a trusting relationship through shared experiences outside of the current course. These pre-existing relationships could influence the data, as the surveyed course may not have been responsible for the trust development of the students.

Further research could be conducted on the various tools and strategies that encourage the development of a sense of community within online courses. This study asked one open-ended question on this topic, but further research into specific tools and strategies that create an environment for community development would be useful.

The results on trust and its relationship to isolation and spirit of community were surprising based on the findings of other scholars. Due to these results, a larger sample size should be gathered for the study. Also, further research could focus on the various relationships formed within the course between instructor and student, and between students. Research on these specific areas would give insight into the reasons that this study found a negative relationship between trust and both isolation and spirit of community. A new measure of trust and possibly a revised measure of community may be determined useful in expanding the research of this study.

The statistical analysis indicated a relationship between the length of the online course and the sense of community developed within the course. Further research could focus on a comparison between the 8-week and 16-week model of online courses, with an emphasis on the community development within these courses.
The literature review and common wisdom indicated that timely feedback is important to develop a sense community within the online classroom, but the results did not present a significant relationship between these two variables. Further research could be conducted on the instructor’s role within the course, and how certain instructor actions affect the development of the community within the online course environment. Another interesting line of potential research involves the effect of instructor feedback and participation in community development.

**Summary**

As online courses and programs are becoming more popular, it is critical that instructors are educated in the development of these courses. Online courses are becoming more prevalent as students are seeking alternatives to traditional classroom courses. The literature placed an emphasis on developing communities in online courses. In order for students to be successful in online courses, an emphasis must be placed on developing a social community of students that are working toward a shared learning goal. At the university used for this study, instructors are required to participate in a faculty development program before they teach an online course. Due to time restraints and workload issues, community development is not a high priority in the program.

The Classroom Community Scale was administered to all students enrolled in undergraduate, online courses at this small university. The data were analyzed to determine what variables had an effect on community development in online courses. An ordered logit was conducted to analyze the variables of trust, instructor feedback, participation in discussion posts, and the length of the course. The results indicated that as trust developed in the course, levels of isolation also increased and sense of community decreased. There was also evidence that students perceived lower levels of community in longer online courses.
In order to increase the sense of community in online courses, the implementation plan presented in this study focused on educating online instructors in developing online courses that foster a sense of community through interactions, participation, and trust development. The plan presented in this study will be implemented at the university where the data collection occurred. The faculty development program could be adapted to other universities as well. One week of faculty development will be added to the current education program for online instructors. This week will include an emphasis on community development. Instructors will be required to participate in various learning activities using multiple communication tools, both synchronous and asynchronous.

The goal for the implementation of the new unit on community development for online instructors is to create online courses that foster a sense of community. The study results indicated a strong relationship between social and learning communities within online courses. Educating instructors on community development in online courses may build relationships within the course, which may have a positive effect on student learning within these courses. As the faculty development program is implemented, evaluated, and refined, positive effects will be felt by all students enrolled in online courses. These positive effects include student engagement, increased student learning, and higher retention rates. These effects will not only benefit the students enrolled in these courses, but will benefit the university as a whole.
References


Kuboni, O., & Martin, A. (2004). An assessment of support strategies used to facilitate distance students' participation in a web-based learning environment in the University of the West Indies. Distance Education, 25(1), 7-29. doi:10.1080/0158791042000212431


Classroom Community Scale

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

1. I feel that students in this course care about each other (SA) (A) (N) (D) (SD)
2. I feel that I am encouraged to ask questions (SA) (A) (N) (D) (SD)
3. I feel connected to others in this course (SA) (A) (N) (D) (SD)
4. I feel that it is hard to get help when I have a question (SA) (A) (N) (D) (SD)
5. I do not feel a spirit of community (SA) (A) (N) (D) (SD)
6. I feel that I receive timely feedback (SA) (A) (N) (D) (SD)
7. I feel that this course is like a family (SA) (A) (N) (D) (SD)
8. I feel uneasy exposing gaps in my understanding (SA) (A) (N) (D) (SD)
9. I feel isolated in this course (SA) (A) (N) (D) (SD)
10. I feel reluctant to speak openly (SA) (A) (N) (D) (SD)
11. I trust others in this course (SA) (A) (N) (D) (SD)
12. I feel that this course results in only modest learning (SA) (A) (N) (D) (SD)
13. I feel that I can rely on others in this course (SA) (A) (N) (D) (SD)
14. I feel that other students do not help me learn (SA) (A) (N) (D) (SD)
15. I feel that members of this course depend on me (SA) (A) (N) (D) (SD)
16. I feel that I am given ample opportunities to learn (SA) (A) (N) (D) (SD)
17. I feel uncertain about others in this course (SA) (A) (N) (D) (SD)
18. I feel that my educational needs are not being met (SA) (A) (N) (D) (SD)
19. I feel confident that others will support me (SA) (A) (N) (D) (SD)
20. I feel that this course does not promote a desire to learn (SA) (A) (N) (D) (SD)

(Rovai, A.P., 2002b, p. 208).
Appendix B

Classroom Community Scale Scoring

CCS raw scores vary from a maximum of 80 to a minimum of zero. Interpret higher CCS scores as a stronger sense of classroom community. Score the test instrument items as follows:

- For items: 1, 2, 3, 6, 7, 11, 13, 15, 16, 19; weights: Strongly Agree = 4, Agree = 3, Neutral = 2, Disagree = 1, Strongly Disagree = 0
- For items: 4, 5, 8, 9, 10, 12, 14, 17, 18, 20; weights: Strongly Agree = 0, Agree = 1, Neutral = 2, Disagree = 3, Strongly Disagree = 4
- Add the weights of all 20 items to obtain the overall CCS score.

CCS subscale raw scores vary from a maximum of 40 to a minimum of zero. Calculate CCS subscale scores as follows:

- Connectedness (social community); add the weights of odd items: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19
- Learning (learning community); add the weights of even items: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20

(Rovai, A.P., 2002b)
Appendix C

Control Variable Survey Questions

1. What is the length of your current online course? (8 weeks) (16 weeks)

2. How many weeks have you completed in your current online course?

3. How many students are in your online course?

4. Each week, on average, how many discussion posts do you make?

5. During your class, how often have you received feedback from your instructor? (very rarely) (sometimes) (fairly often) (quite often) (almost always)

6. List specific course requirements, coursework, techniques, and/or tools that helped you build relationships with other students and the instructor in your online course.