ABSTRACT

Title of dissertation: THE ROLE OF SOCIAL PRESENCE IN ONLINE COMMUNITIES

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Online learning is emerging as a solution for professional staff development in public school systems that are looking for ways to improve the capacity of their teaching staffs. As teachers begin to take more online courses as a way of improving their skills, we must continue to study the dynamics of teaching and learning in an online environment. To that end, there is a need to examine the various factors that affect online courses and professional staff development for teachers.

This dissertation explores the role of social presence in an online professional development course for teachers. It focuses on the threaded discussion of 26 teachers enrolled in an online course and compares their self-reported online behaviors with the written discussion threads. The data were analyzed based on a modified version of Garrison, Anderson, and Archer's (2001) indicators of social presence. In addition, this research focused on the written responses of the online moderators to understand the

relationship between their responses and the ones provided by the teachers as online community members.

Content analysis of the discussion threads revealed that there was a range of social presence in the textual responses of the community members. The results of the study showed that there are levels of social presence in the written communication of the online community. In this research the levels of social presence appeared to be affected by outside influences such as the governing policy of the community itself and the more expansive district-wide policy of the school system. The results also suggested that moderator behaviors in this research had an effect on the policy governing the members of the online community. These results confirm previous research findings that suggest the purpose of the community and the types of questions used in asynchronous discussions can have an effect on the levels of social presence within the online community.

THE ROLE OF SOCIAL PRESENCE IN ONLINE COMMUNITIES

by

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Dedication

I would like to dedicate this work to the three people who fill my home with laughter and my heart with love—my wife Michille, my daughter Joanna, and my son Devon. I want to say thank you for their never-ending support and encouragement. I also have to thank Hugger--our big, red, golden retriever--who regularly rested his head on my feet as I wrote this. And last but not least, our cat Cuddles who regularly avoided Hugger and me and just enjoyed the sun in the dining room.

For all of you—

> "In family life, love is the oil that eases friction, the cement that binds closer together, and the music that brings harmony."
>
> Eva Burrows

For Michille—

> "If ever two were one, then surely we. If ever man were loved by wife, then thee."
>
> Anne Bradstreet

For Joanna and Devon—

> "Patience and perseverance have a magical effect before which difficulties disappear and obstacles vanish."
>
> John Quincy Adams

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I truly thank you all for all the help you have given me.

Table of Contents

List of Tables

Chapter 1: Introduction

Summary

This chapter introduces my dissertation research and frames the concepts that relate to social presence and how they apply to online learning theories and community. It discusses my personal interests and history using technology and how this dissertation research meets my personal and professional needs. This chapter also describes the reasons why it is important to study social presence and frames the need for this research study. It also presents a definition of social presence that is used throughout the dissertation. It concludes with an overview of the dissertation and the study questions used to guide this research.

Technology as a Change Agent in Education

"We are at a point in the history of education when radical change is possible, and the possibility for that change is directly tied to the impact of the computer."

Seymour Papert, 1993.

As an educator and district technology administrator, I am surrounded daily by questions of technology selection and integration strategies as I help teachers navigate through the digital world. Through the eyes of these teachers, I see that technology has changed their views of teaching and learning and that it has challenged some of their traditional strategies for teaching. One dramatic change is the infusion of online learning into their classrooms.

This infusion of technology into our schools has prompted great discussion from both educators and researchers regarding its viability in our classrooms and its role as a cognitive and communication tool (Hannafin, Land, & Oliver, 1997; Murray, 1998). This

use of technology, both in our lives and in our schools is changing the way we interact with students, parents, and our community members (Forsblom & Silius, 2002).

The integration of technology in our classrooms has changed our learning perspective from learning about computers to learning with computers—a fact that has worried educators as they face an ever-changing world where technology advances faster than schools systems can keep pace. In fact, researchers have made many suggestions for improving education in the past few years which have included the integration of computer technology in classroom settings and the restructuring of our schools to include the teaming of teachers for interdisciplinary instruction (Riel, 1983; Becker, 1994). Other researchers, (Newman, Griffin, and Cole, 1989) describe the use of technology in education as a "cultural amplifier" signifying that it transforms the nature of human productivity and that it can also quantitatively change the processes of cognition and amplify the cultural dimensions of communication, task analysis and problem solving. While these suggestions offer both a broad description for improvement to our schools, they also provide some conceptual examples of how technology can have many uses in the classroom setting.

From the search for facts to the presentation of information, technology in our classrooms has evolved from its *ancient* predecessor the blackboard to the communication and information tool of today. Research shows that it also helps educators realize the importance of having a tool for receiving, storing, investigating, manipulating, and communicating information (Johnson, Schwab, & Foa, 1999; Chipuer, 1999). Like its very distant relative the blackboard, computers are seen in most classrooms across the country as a deliberate, ingenious tool to be used for a task or

problem (Ike, 1997; Forcier, 1999). The computer, once seen throughout school districts as the add-on or peripheral tool, is now recognized within the views of instructional technology proposed by Heinich et al. (1996) as both a product and a process. Although the technology has changed drastically over the last several years, technology-related staff development for teachers has remained far behind and entrenched in the traditional format of face-to-face instructional that has been the hallmark of public education. In this age of anytime-anywhere learning, the connection to the community of online learning presents a new and viable way for teachers to receive training and staff development who may not have additional time available outside of the workday.

Need for Research on Social Presence

As more demands are placed on the schedules of teachers, providing quality staff development opportunities becomes a challenge for school districts across the country. Research describes one of the ways school systems have started to address this issue is through the use of computer technology and online learning (Matthews, 1999; Swan, Shea, Frederickson, et al. 2000; Jiang 1998). The ability to provide content to teachers which meets their needs and time limitations is a one of the attractions of online or web-based learning and has been the subject of numerous studies (Harasim, Hiltz, Teles, and Turoff, 1995; Harasim, 1990; Berge, 1997). The promise of online learning may be appealing for our school systems; there are a few obstacles that may interfere with the adoption and integration of this type of instructional delivery method. In addition to the potential larger number of technical and infrastructure configuration problems, system compatibility issues, and bandwidth limitations, the seemingly obvious problem may

simply be a lack of knowledge or understanding by the people using it: online learning is perceived as a huge *change* from the traditional model of instruction.

Research in the area of online learning has shown the many advantages of this type of content delivery (Berge & Collins, 1995; Duderstadt, 1999; Schrum, 1998, Ward and Newlands, 1998). Garrison and Anderson (2003) describe one of these advantages of online learning communities as "its capacity to support reflective text-based interaction, independent of the pressures of time and the constraints of distance" (p.6). These communities also contain social aspects of instructional activities which play an important role in successful learning as well as a psychological climate in which learning occurs (Hiemstra, 1991; Merriam & Brockett, 1977; Sisco, 1991). While clear connections have been made in recent years between the *importance* of online communities (Hiltz, 1994; Kiesler, 1997; Bruckman, 1998) little research has been done on the extent of how people feel socially in an online learning community. Additional studies indicate that one of these aspects--social presence--a group's shared feeling of togetherness in terms of time and place (Shin, 2002), is a vital element which influences interaction within online communities (Fabro & Garrison; 1998; Rourke, Anderson, Garrison, & Archer; 1999). Gunawardena (1995) maintains that social presence is necessary to improve effective instruction in traditional and technology-based environments. Social presence needs to be further researched because of its role in improving instruction in online learning environments as well as its connection to social learning. Social constructivists do not view learning as a social process which takes place exclusively within the individual, but one that is socially and culturally constructed (Gredler, 1997; Prat & Floden, 1994). Within online communities, it is important to

understand the relationship that social presence has to the individual learner as well as the entire online community. Social presence is about relationships and how people connect to each other in the virtual world to interact socially, question each other, share knowledge and engage in activities that are mediated through the use of technology. It is important to study how people learn in these online communities as they develop a group collaborative learning process which supports the construction of knowledge (Gabriel, 1998; Garrison, 1997; Hiltz, 1994; Oren & Ram, 2000).

Additionally, the absence of social presence also merits further research because its absence may have effects on the individual learners of the community and the entire group as well. Studies have shown that the absence or low level of social presence in an online community may lead to a high level of frustration in the learner and a critical attitude towards the moderator's effectiveness (Hample & Dallinger, 1995; Garramore, Harris, & Anderson, 1986). Combined, these concepts describe social presence as way for people to connect to each other in online environment to form relationships and learn from each other.

Social presence is a concept which plays a large role in online learning communities and is the focus of this research study. Within this contextual framework of online communities and professional staff development for professional teachers, I seek to study the potential connection and relationship of social presence and its possible significance to online learning and the staff development of teachers.

Defining Social Presence

The concept of social presence is very broad and has a variety of definitions and meanings (Barfield, Zeltzer, Sheridan, & Slader, 1995; Lombard, et. al., 2000). It also is

defined in a variety of studies as the degree of awareness of another person in and interaction and the consequent appreciation of an interpersonal relationship (Walther, 1992), and as the degree of feeling, perception and reaction of being connected to another intellectual entity (Tu & McIsaac, 2002). It also have been defined as the degree that a person feels they are 'real' in computer mediated communication (Gunawardena & Zittle, 2002). These definitions help to frame not only the meaning of social presence, but its relationship to online instruction and electronic communities.

For this research study, social presence is defined as the feeling that the others online are joined in the communication interaction (Rice, 1984) which affects how participants sense emotion, intimacy, and immediacy (Rice, 1993). This definition was chosen because the three elements closely align with the core elements or indicators that are a part of the categories of social presence presented by Garrison, Anderson, and Archer (2000) that are used to describe social presence in online communities. It was also chosen because of its focus on both individual and group interactions within an online community.

The Purpose of the Study and Research Questions

The purpose of this research is to explore the role of social presence in online community with teachers engaged in online professional development. It is important to analyze the factors that are related to the delivery of online courses and the establishment of online learning communities. Therefore, I examine the methods of delivery, while also focusing on the learning experience.

These factors combine to frame the rationale of this research. Its two-part analysis describes social presence in online professional development courses for

teachers and also provides descriptive data for school systems on the viability to support this type of staff development delivery.

The study takes its direction from this overarching question: What is the role of social presence on online professional development communities for teachers? This broad question suggests the following sub-questions:

1) How could the textual discussion threads of online courses describe the social presence of online community members?
2) What social role did the moderator play in the textual discussions?

The Significance of the Study

This study's significance relates to its place in the research and understanding of online staff development communities and how teachers perceive themselves as members of these communities. The results of this study describe the possible characteristics that are needed for an online course for both teachers and moderators. These issues are quite important for local district administrators and boards of education because of the high dollar amount of basic infrastructure set-up, maintenance, and systems upgrades.

Dissertation Overview

The first chapter describes the evolution of my interest in the research question historically and within the framework of my professional career as a life-long educator and technology user. I presented the research questions and outlined the potential contributions of this research study to further the understanding of teachers' participation in online learning professional development.

The second chapter outlines the literature that provides the theoretical framework of the study. I address the relevant literature in the areas of social presence, social

constructivism, and online community and the inter-relationship of them all when describing professional staff development for teachers. The literature review highlights the effects of the integration of all of these concepts.

The third chapter presents the methods used for the research. Descriptions of the data collection methods, analysis tools, and study participants are presented.

The fourth chapter explores the findings of the Main Study and some basic observations and comparisons to the Pilot Study. Descriptions of the data collection methods, analysis tools, and study participants are presented. It addition, the social role of the moderator is explored.

The fifth chapter offers an analysis of the findings through a number of different lenses that will focus on the nature and quality of online learning experiences and the relationship of social presence. To this end, I combine and analyze the results of both studies in order to better understand the role of social presence in online learning communities for teachers. I examine the unique nature of the online community as a source of professional development and consider the many varied complications and factors which affect online learning.

The sixth chapter provides an overview and summary of the study and also includes implications for future research and practice. This final section contains my reflections and describes the research experience of having done the study within my professional practice and recommendations for policy changes at the district and moderator level. It also describes the effect of the study's findings on my work as a researcher, teacher, administrator, and life-long learner.

Chapter 2: Review of the Literature

Summary

This chapter reviews the literature on several major concepts which relate to social presence and online communities. It describes current research finding in such areas as technology as a change agent in education, constructivism and technology, computing as a social experience, and online community. It also provides discussion on the dimension so f social presence and concludes with a detailed description of the analytical categories used in this study.

Technology as a Change Agent in Education

Within our schools, educators are challenged to change the perception of how they interact with technology. Definitions of technology need to evolve from the view that it is some type of complicated device whose operational functions need to be studied. Instead, technology can be something that more closely resembles how we interact, manipulate and, most importantly, learn. It no longer needs to be considered an expensive addition to our classrooms, but more a "source of energy that can be applied in a variety of ways" (Scriver, 1986, p. 29). This *energy* can serve as a basis for a new educational paradigm where electronic media unites teachers, learners and course content in virtual communities which have no physical boundaries. This union of digital resources and learning in an electronic classroom or community is not achieved individually—but is a result of the collaboration between the staff and students with the interaction of technology. It is not a passive experience nor is it an individual one—it is

the cumulative effect of dynamic social and group interaction—the essence of social constructivism.

Constructivism and Technology

Constructivism emphasizes the careful study of the process by which learners create and develop their own ideas. Researchers have suggested that its educational application lies in creating curricula that challenge understanding, foster growth in the wider framework of the social-cultural tradition, and provide learning activities that are socially mediated and seen more as a matter of participation in a social process of knowledge construction than as an individual endeavor (Greeno, 1997; Vygotsky, 1978; Strommen, 1998).

Constructivist models of instruction strive to create environments where learners actively participate in ways that are intended to help them construct their own paths to knowledge, rather than having the instructor interpret the world and ensure that students understand the world as they have told them (Jonassen, 1994). This differs from the traditional instruction methods where the teacher may tell students the correct answers; it is a model where they guide students to direct their own learning (Bednar, Cunningham, Duffy, 1992). Constructivist researchers share the view that learning and understanding is an active process in which learners question, manipulate, elaborate, organize, and monitor their progress so that learning makes sense to them and that their learning is done collaboratively and not in isolation from others (Anderson, 1990; Wittrock, 1990; Petraglia, 1998).

As a tool, technology may also provide more opportunities for constructivist learning by enabling learning to be related to context and practice (Barron, 1998; Berge

1998). The connection that constructivism brings to technology is complex and highly integrated. Through the use of technology as a tool, researchers have found that learners can search actively and discover rich resources to solve problems or construct their own knowledge—the technology becomes a common tool for learner-centered or constructivist learning and provides real-world, case-based environments for meaningful and authentic knowledge (Brookfield, 1995; Huang, 2002).

This implication that the computer should be used as a learning tool is not new. Brown, Collins, & Duguid (1989) indicated that the computer is not what students learn *about*, but rather is a tool that they learn *with* to solve meaningful problems -- a natural part of the learning process. It is seen as an integral part of solving authentic, meaningful problems, just like a calculator is used to solve math problems, a ruler to measure, or a pen to write (Brown, Collins, & Duguid, 1989; Lowther, Bassoppo-Moyo, & Morrison, 1997).

Applying Forcier's (1999) student-centered learning model, the computer is recognized as a tool for the students to use in creating, accessing, manipulating, and transmitting information in order to solve a problem. This technology-centered approach holds that computer-based instruction must be widely used to have significant and long-term impacts on the learning and motivation of students (Abrami, 2001). In order for this long-term effect to occur, there must be an integration of the technology into more than daily, isolated activities—it needs to be embedded into the existing curricula in order for meaningful change to occur.

Activities that incorporate technology to support learning communities are numerous and can provide a medium for distributed knowledge and the development of

ideas. Constructivism emphasizes the careful study of the process by which learners create and develop their own ideas. Its educational applications lie in creating curricula that match (but also challenge) understanding, fostering further growth and development of the mind (Strommen, 1998). Through this social constructivist perspective, learners in an online community construct knowledge with what they already know and the kinds of experiences they have had. Their beliefs are used to interpret objects and events that they encounter in the world (Jonassen, 1994). Within the online learning community, a wide variety of tools are available which provide opportunities for learners to collaborate with all kinds of people and an interactive environment which supports instructional methods required to facilitate constructivist principles (Kanuka & Anderson, 1999; Lowyck, Pöysä, 2001). For this discussion these communities are not physical locations, but are defined using Palloff's (1996) description that they are formed around issues of identity and shared values. They are social entities.

Computing As a Social Experience

As technology evolves and changes the landscape of our classrooms, it is important to note that research studies suggest that learning with computer technology is no longer an exclusive one-to-one process between user and machine. It is evolving into a much broader, socially integrated experience-- a connection of people and ideas within a community of learners. Current researchers (Im and Lee 2002), emphasize the importance of an online learning community as a key element of the learning process where the community provides the environment for communication through the entire process of learning. These online learning communities serve a variety of purposes—from the exchanging of information to social support and companionship (Kling, 1996;

Wellman and Gulia, 1998). Research also indicates the term online community often applies to a general range of different types of communities including those that have been networked (Lazar & Preece, 1998). In other online community studies, Donath (2004) looked at how the existing technologies are used and how they affect the relationship among the people using them and how they transform society. This analysis of relationships in online mediated communication serves to help us understand how social information is encoded in textual messages

Using a Vygotskian conceptual framework, learning can be viewed as a social process which is influenced culturally. He maintained that "learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them" (1978, p. 89). In order to better understand technology as it relates to a social experience, we cannot simply study individuals in isolation; we must examine how people interact in group settings, and how those specific settings create and shape the actions of the individuals—we should examine the social community. Researchers have found the use of computer technology can produce positive effects on motivation and collaborative work (Hoyles, Healy, and Pozzi, 1994) and is recognized as a part of the social context of classrooms (Crook, 1994). In addition, studies of learners working socially with computers have shown that they have the potential to enhance collaborative work and lead to productive use of language (Hoyles, Healy, and Sutherland, 1991). This social function of the use of computers by learners has been noted in further research to support cognition and the thinking process (Bennett and Dunne, 1991) and increased verbal exchange leading to higher levels of task involvement and problem solving (Clements and Nastasi, 1992).

The use of the computer has evolved into more than an individual experience. By allowing learners to work collaboratively with the technology in social settings, studies have indicated that it provides support for increased collaboration by the learners (Light and Mevarech, 1992) and sustained interactions leading to higher order learning (Light, 1993; Fisher, 1993). As further studies are made into computer-supported learning environments, research indicates the necessity of social and interactive frameworks to support discourse and higher order learning processes (Light, 1993).

With empirical studies supporting the use of computers in social settings, it is logical that we also look at how learning activities can be structured to ensure collaboration and a sharing of information between participants. McLoughlin and Oliver (1998) have indicated that learning with computers is a social activity where learners share resources, talk, and discuss ideas and collaborate. Vygotsky's (1978) socio-cultural theory acknowledges the social dimension of learning with technology and focuses on the use of language as an essential part of teaching and learning. Within this type of learning environment, the computer technology should be viewed as a resource that offers opportunities for communication between the teacher and the learners. It is seen as an integral part of solving authentic, meaningful problems (Brown, Collins, & Duguid, 1989).

Although communication within online communities limits the users of some of the physical and sensory cues, research has indicated that it does increase some cues that affect our behavior (Pratt, 1996). The social aspect of computing has roots in several research studies which create a type of social interdependence enabling interaction and

“new communities to form wherever communication links can be made” (Gergen, 1991, p. 213).

Computer Mediated Communication

Current research defines the systems used in computer mediated communication (CMC) as "media that facilitate the exchange of semantic content, transmitted through telecommunication networks, and processed through one or more computers, between individuals and among groups" (Rice, 1984, p 438). Walther (1992) defines CMC as "synchronous or asynchronous electronic mail (email) and computer conferencing, by which senders encode in text their messages that are relayed from senders' computers to receivers'" (p 52). Combined, these definitions describe the concepts of social communication between people in online communities through computer systems.

Asynchronous CMC refers to applications which enable a people to send electronic messages to another person's computer so that they can read it and reply sometime later. In this study, the asynchronous textual discussion threads of the various online communities are the focus for analysis of social presence.

Communication in Virtual Environments

Research studies have identified theories related to social presence which help us to understand how people communicate in virtual environments where they may be separated by both time and physical space. These theories provide foundational information on the issues of how people connect, form relationships, and work together toward a common purpose in an online environment.

Swift trust

Swift trust theory (Meyerson, Weick, and Kramer (1996) relates to social presence in that a group or online community's interaction is built upon the expectation level that they have and their ability to manage tasks together. Online community members often perform tasks related to the community's purpose with people they do not know and have never met. In order to complete those tasks, they must quickly form relationships and roles with these other community members in the time prescribed by the course or moderator of the course.

Information richness

Information richness theory describes the rate with which the media itself can resolve uncertainty and ambiguity of the online participants (Daft &Lengel, 1986). Rich media, like face-to-face communication, can resolve ambiguity through the use of synchronous video and audio, but may also be affected by bandwidth constraints or connection difficulties. Low, rich media includes asynchronous email or discussion threads and can help resolve uncertainty. The effectiveness of an online community can be related to the type of media used, and although the selection of the type of online community technology may not be left up to the participants, it can play a role in the way that they communicate.

Social identity

Social Identity Theory (Tajfel & Turner (1979) recognizes the importance and ubiquity of categorization and the extent that we associate ourselves with groups (i.e. categorize ourselves). In online communities, social identities are important aspects of

how we define ourselves. The need for humans to interact with one another drives their communication toward the formation of rewarding and complex relationships (Walther, 1992).

However, within online communities, research also indicates anonymity allows users to construct a positive impression of the other which leads to an idealized impression of the communication partner (Walther, 1996). Visual anonymity in an online community allows "one to express one's true mind, or authentic self, unfettered by the concerns of self-presentation (Spear & Lea, 1994, p. 430.) Spears and Lea (1992) also argue that even though anonymity may be present in some online environments, when a person's social identity is known to the other community members it serves to strengthen the social norms of the community.

Community of Practice

Communities of practice differ from traditional learning environments because the learning takes place in the actual situation, including the social environment. Several major characteristics of communities of practice include community knowledge (in which the sum of community knowledge is greater than the sum of participant knowledge) and that expert-to-apprentice relationships are key factors in its success (Gherardi & Nicolini, 2000; Soden & Halliday, 2000).

Empirical research has indicated that a traditional community of practice is made up of individuals who are informally bound to one another through exposure to a similar set of problems and a common pursuit of solutions and employ active participation and decision-making by individuals, as opposed to separated decision-making that is present in organizations (Allee, 1997; Collier & Esteban, 1999). A community of practice also

provides direct cognitive and social support for the efforts of the group's individual members. Students become apprentice learners, learning how to think and reason in a variety of knowledge domains, using the power of others to support individual and collective goals: they distribute their intellectual activity so that the burden of managing the whole process does not fall to any one individual (Bransford, et.al., 2000; Norton & Wilburg, 1998).

What does technology offer to community of practice that may be more beneficial than traditional face-to-face methods? The introduction of technology into the framework of community of practice has provided a new and dynamic dimension of interaction. Within this framework, studies have revealed that online discussion is considered to be a learning environment in which students can participate in activities, produce artifacts, and achieve higher conceptual knowledge through the interaction of knowledge and experience among all students (Harasim, 1993; Johnson, 2001). Current research indicates that online learning situations are their own type of social aggregation where learners interact with their peers, instructors, and content experts in ways that allow students to develop their critical and problem solving skills. (Jonassen, 2000; Wenger, 1998; Riel, 1993). Additional studies also recognize that the role of the teacher or moderators takes on an added dimension where they must create learning environments in which the computer becomes an "instructional partner" in the process of constructing knowledge (McDaniel, McInerney, & Armstrong, 2004).

The emphasis on establishing communities of scientific practice is built on the fact that robust knowledge and understanding are socially constructed through talk, activity, and interaction around meaningful problems and tools (Vygotsky, 1978).

Aligning with this is one of the primary goals of a multidimensional learning environment where the computer is viewed as an additional learning tool and provides the medium for a socially active community to function (Lowther, Bassoppo-Moyo, & Morrison, 1997; McLoughlin, 1999).

The importance of an e-learning community has been accepted by researchers as a key element of the learning process (Im & lee, 200) as well as a vehicle to promote social interaction, motivation, and participation (Oren, Mioduser, & Nachmias, 2002; Ridley & Avery, 1979). Through online discussion, social distance among users is created. By using text-only formatting, visual cues are reduced as are cues regarding ethnicity, social status, and gender. One advantage of this type of format is that it is possible to "rewind" a conversation, to pick out threads and make very direct links between different messages (Salmon, 2002). A part of this discussion process is the user's application of a range of social skills so that they work towards becoming independent of the teacher.

Group Interaction

Online group interaction and cooperative learning with technology has been well researched and the results indicate these strategies are an important component of students learning opportunities that promote the development of community, and the completion of complex and authentic problems (Norton & Wiburg, 1998; Herrington, Oliver, & Reeves, 2003). In addition, research has indicated that online group interaction has the potential to allow for divergent perspectives, to balance power relations between teacher and students, to give a voice to marginalized groups, and to provide opportunities for the thoughtful, reflective discourse that characterizes critical thinking (Bonk & King, 1999; Herring, 1994, 2001; Wilson, 1999).

A specific benefit of online group member interaction is the development of positive interdependence among group members where students actively work toward a common goal. Group members may be more motivated to help one another and themselves to achieve in an online environment. Abrami (2001) indicated that this positive interdependence exists when one student's success positively influences the chances of other students' success.

When the focus is applied to teachers and online learning, an important approach to enhancing teacher learning is to develop communities of practice which involves collaborative peer relationships and teachers' participation in educational research and practice (Lave and Wenger, 1991). By allowing teachers to work collaboratively to achieve their mutually established goals, online groups or communities help to create a setting in which they can learn together.

Online Community

Within the framework of web-based learning is a related concept called *online community* which has garnered considerable attention by researchers as an integral part of the educational experience. Emerging from the virtual community—a group of people who may not meet one another face to face and who exchange words and ideas through the use of computer bulletin boards and networks (Rheingold, 1994), It is within these online environments that the development of collaborative learning communities has been established (Hasler-Waters & Napier, 2002). Research studies have reported that a strong sense of community increases persistence of the students enrolled in online courses and group commitment and collaboration (Dede, 1996; Wellman, 1999).

For the purpose of this dissertation research I focused on a portion of the definition of online community, which includes *people* who interact socially as they attempt to satisfy their own needs, and who have a shared *purpose* such as an interest or need to exchange information and are governed by shared *policies* or guidelines (Preece, 2000). These shared social interactions are also referenced in studies by Erickson (2003) where the social visualization is a representation of information from which the presence, activities, and other characteristics of members of a community may be inferred. This digital depiction of our online social behaviors has been the foundation of several studies which have focused on the social interaction within a virtual space as opposed to a physical one. Erickson (2003) introduced the concept of the *social translucent system* which indicates the three components needed for online social interaction: visibility, awareness, and accountability. Combined, these perspectives form the basis for collaboration and communication in digital environments

Purpose

In the online communities of today, participation takes conscious and deliberate commitment by its members to meet both personal and professional needs. The community members are connected through some sense of purpose—a reason for being there in the first place. It may be to collect information or share ideas about specific content. Relevant research in this area has indicated online communities can be formed around issues of identity and shared values (Palloff, 1996) where a group of people share common practices, and identify themselves with something larger than the sum of their individual relationships (Shaffer and Anundsen, 1993). Additionally, Wallace (1999)

identified that a community's purpose is one of several factors that influences people's interaction within it.

People

Sociologists tend to focus on networks of social relations, ethnographers on the roles and activities of small groups of individuals, and technologists on the structure of the underlying software supporting the community (deSouza & Preece, 2004). In this research study, I attempt to address the impact of these three perspectives on the people involved in the online community. As a requisite component of any online community, are the individuals "who interact socially as they strive to satisfy their own needs or perform special roles, such as leading or moderating" (Preece, 2000, p. 10).

It is important to understand both the characteristics of how people interact individually as well as the group dynamics they display while they are in an online community. Individually, people may display what some researchers have described as an *electronic personality*. This electronic personality (Pratt, 1996) describes the person we become when we are online. It requires many things from individuals some of which include the ability to deal with emotional issues in a textual form as well as creating a sense of presence through personalized communication. This online personality may or may not meet with others face to face but with others through computer networks and digital text. The online personas of these people may not be congruous with their real life personalities because some people behave much differently online due to the fact they are hidden from the view of others—safely obscured by digital anonymity. Individuals in an online community cannot see each other and as a result typical group dynamic norms may not dominate as much as in a traditional community. This may actually be more of

an advantage for the individual because it offers them greater control in their responses and reactions to others.

Policy

Online communities are formed around central values and emerge through shared common practices of the members (Palloff, 1996; Anudsen and Shaffer, 1993). Policies are needed in online communities to direct the behaviors of the members. *Community governance* (Preece, 2000) which directs the participants—what they can or cannot do and what they should or should not do--can be agreed upon by the community members before the establishment of the community or it can be imposed upon them from an outside source. These policies can include guidelines for joining or leaving the community, acceptable behavioral codes, such as language or the use of acronyms. These policies can have a huge impact on the interactions of the community members—too many policies can stifle the communications and too few can cause the purpose of the community to get lost in irrelevant or inappropriate conversations.

Community of Inquiry Model

Within the online community there are several other conceptual elements that researchers have identified as highly important in developing and sustaining these types of learning groups. These theoretical underpinnings will help to bridge our understanding of online learning and some of the inter-related concepts, such as social presence and how it relates to professional staff development for teachers.

Garrison, Anderson, and Archer (2000) present a model of the teaching and learning transaction that capitalizes on the high degree of interaction that is possible with media such

as web-based communication. This community of inquiry is composed of both instructors and learners as the key participants in the educational process, and assumes that within the community, learning occurs through the interaction of three inter-related core components: cognitive presence, teaching presence, and social presence. These theoretical concepts will serve as the foundation for further discussion and analysis in the chapters to follow

Garrison, Anderson, and Archer (2000) have a developed a *Community of Inquiry Model* which describes an online educational experience that consists of three integral and overlapping concepts: cognitive presence, teaching presence, and social presence. Separately, these elements comprise the three key elements of a community of inquiry that should be analyzed and considered in the development and implementation of an electronic (e-learning) experience. This Community of Inquiry Model was specifically designed to guide the use of computer conferencing to support critical thinking in higher education, and also serves as the foundational support for this particular research study.

Two of the components of this model—cognitive presence and teaching presence will be mentioned as they interrelate to the social presence, but will not be completely discussed due to the nature and focus of this study. The first, cognitive presence, defined as "the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse in a critical community of inquiry, represents the general model of critical thinking (Garrison, Anderson, and Archer 2001). This process and outcome kind of learning defines the core of the educational experience—learning.

The second element of this model of a community of inquiry is teacher presence. Researchers have defined this as "the design, facilitation and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally

worthwhile learning outcomes" (Anderson *et al.* 2001). This specific element presents a difficult challenge for instructors because of its to connection to the other two components in a delicate, balanced state.

The third factor of community of inquiry model, social presence serves as the focus for this research study and will be discussed in further detail in the following sections. Social Presence is defined as the ability of the learner to project themselves socially and affectively into a community of inquiry (Rourke, Anderson, Garrison, Archer (2001).

Social Presence Theories

Empirical studies have shown that much of learning is social, and that learning is not for later in life but for living, and that students are not vessels to be filled but rather constructors of their knowledge (Norton & Wiburg, 1998). This connection is also presented by Lave and Wegner (1991) who proposed that social practice is the primary generative phenomenon, and that learning within a social environment provides the supports that community members need. Further research indicates that it appears to be one of the component keys to collaboration. If there is collaboration then social interaction can be found in it, and vice versa, if there is no social interaction when there is no real collaboration (Garrison, 1993; Johnson & Johnson, and Stanne, 1985). The area of social presence, as it relates to the online collaborative environments, invites further study.

Social presence has gained considerable attention in recent research studies and has been defined as the degree of awareness of another person in an interaction and the consequent appreciation of an interpersonal relationship (Short, Williams and Christie

1976; Rice 1993; Walther 1992; Walther and Burgoon 1992). In an online environment, this definition can be further expanded as Bracken and Lombard (2004) have added that the social dimension of presence reflects on a sense of being near or with a social entity of some kind feeling connected to another person, computer-generated avatar or character, or a technology that appears to be "alive". What factors need to be present in order for this phenomenon to occur? It is a combination of both the written communications and other non-verbal cues. Social presence depends not only on the words conveyed during communication but also on a range of non-verbal and verbal cues and the communication context (Rice, 1993).

Research shows that a strong sense of community not only increases the persistence of students in online courses but also enhances information flow, learning support, group commitment, collaboration, and learning satisfaction (Dede, 1986; Wellman, 1999). These details merit additional study in terms of the relationship between social presence and community. Studies have also indicated that social presence is a vital element in influencing online interaction (Fabro & Garrison 1998; McIsaac & Gunawardena 1996; Rourke, Anderson, Garrison & Archer, 1999). Social presence is a significant factor in improving instructional effectiveness (Tu, 2004) as well as having strong effects on user satisfaction (Gunawardena & Zittle, 1997), and the depth of online discussions (Polhemus, Shih, & Swan 2001).

Social presence addresses "how successfully media convey a sense of the participants being physically present, using face-to-face communication as the standard for assessment" (Preece, 2000, p. 150). There are also additional dimensions of social presence that research has defined. They include: social context, online communication,

and interactivity (Tu & McIsaac, 2002). Social context is formed from the online community member's characteristics and their personal perceptions of the online environment. Their social relationships with other community members (Williams & Rice, 1983), and trust in others (Cutler, 1995) all play a role in the degree of social presence. Online communication is the language used by the community participants. It requires that they possess some level of technical computer literacy and knowledge. Research has indicated that a positive relationship exists between social presence and the computer knowledge or operational ability of the community participant (Perse, et. al., 1992). Interactivity describes the active learning activities that online community members use as they communicate with others (Norton, 1986).

How can social presence be studied in order to improve teaching and learning in online environments? Several studies have indicated that it can be cultured by teleconference users and leaders or encouraged by initial learning sessions (Johansen, Vallee, & Spangle, 1988) and be influenced by the teachers. Instructors or moderators must utilize their interaction skills and techniques rather than that of the medium (Tu, 2004).

Dimensions of Social Presence

There are several related components that research has identified as being highly connected to social presence. These concepts will be examined to provide a broader understanding of the concepts pertaining to social presence.

Intimacy

Rice (1993) maintained that social presence has two dimensions related to intimacy and immediacy. Intimacy is a function of the visual cues of the participants (Argyle & Can, 1965). The characteristics include eye contact, physical proximity, and in an online environment are difficult to convey.

Immediacy

Immediacy is defined by researchers as the psychological distance people place between themselves (Short, et. al., 1976). Its characteristics include appropriate touching, smiling, and vocal expressiveness.

Categories of Social Presence

Using Garrison and Anderson's classification scheme, three broad categories of social presence indicators were identified: affective, interactive, and cohesive responses (Garrison and Anderson, 2003). Combined, these three elements serve as the basis for analysis and further discussion of communications within online communities.

Affective responses

Considered a defining characteristic of social presence, affective responses are a recognition of a reciprocal relationship with the community members. These responses are characterized by the non-verbal expression of emotions, sense of humor, and personal self-disclosure. The inclusion of these responses in an online community discussion can convey good will and feeling expression without presenting any serious personal challenges. Participants in e-learning communities can display a variety of emotions

using textual elements such as punctuation, capitalization, and emoticons which can provide effective non verbal cues for online participants.

Interactive responses

Interactive responses reflect a climate of trust and acceptance of the participants in an online learning environment. It is part of a recursive process which is comprised of responding and contributing to the textual interactions with others in an e-learning community. It requires participants to continue current discussion topics or threads, quote messages from others, asks individuals groups as a whole to answer questions and express appreciation. The inherently reflective and insightful communication in an e-learning experience is built entirely upon interactive responses.

Cohesive responses

Central to the previously discussed concepts of collaboration and cooperation within group dynamics, is the third category of social presence—group cohesion. Group cohesion is "essential to sustain the commitment and purpose of a community of inquiry, particularly e-learning groups separated by time and space" (Garrison and Anderson, 2003; p. 53). Participants may use inclusive pronouns and address other group members by their name.

When combined, the three elemental parts of social presence—affective, interactive, and cohesive responses can provide a significant amount of detail about participants in online learning environments and how they communicate with each other using synchronous and asynchronous computer technologies. These characteristics of social presence may directly impact the communication process within online

communities. Previous research indicates that nonverbal cues, including body language, and facial expressions and verbal cues, are portions of the communication process that impact the social presence (Rice, 1993).

Moderators

Online teachers or moderators have a unique role in online communities. Part active participant and part content manager, they have an important function in both the content of the community and with the social interactions of the community members. Previous researchers have linked this interaction to course effectiveness and active learning (Wagner, 1994; Vygotsky 1978). Moderator interaction has also been related to research on immediacy which refers to their communication with other members of the community that helps to reduce both the social and psychological distances that may be present (Mehrabian, 1971). Other literature suggests that the moderator or teacher can enhance learning (Christopel, 1990). Research has also indicated that the moderator serves as the catalyst in the establishment of group-based learning activities which foster professional skills and experimental types of learning (Collis, 1998; Klemm and Snell).

The role of the online teacher or moderator in an online environment is also closely related to social presence. Garrison, Anderson, and Archer (2001) have also identified the concept of teaching presence and its close relationship to the focus of this research study—social presence. Defined as the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes, teaching presence forms as the moderator of the community plans, designs, and manages the course that will be used as the

foundation of the community. The three component parts include: instructional design, and organization of the course, facilitating discourse, and direct instruction.

Garrison, Anderson, and Archer (2000) developed a template for analyzing and coding transcripts from a computer conference in terms of cognition, social, and teaching presence. However, for this research study, only the social presence model will be used along with its component parts previously mentioned. Components of the teaching presence model will be discussed as an influencing factor in social presence.

Chapter 3: Methods

Summary

This chapter describes the methods used to collect, examine, and analyze the data for both the Pilot Study and the subsequent Main Study. As a qualitative research study, the role of the researcher is discussed as it relates to the teachers enrolled in the various online courses.

The participants involved in both studies are described with an added focus on the moderators in the Main Study. The data collection tools such as SurveyMonkey, the online questionnaire and the online demographic or background questionnaire are also discussed. The selection process and subsequent classification in to both the Social Presence Group and the Discussion Group is also described.

Content analysis and its related technique of interpretative analysis are discussed as methods of analyzing the data as well as the internal components such as the unit of measure. The coding of the discussion threads is also discussed with an example and the categories of social presence are also presented with categories, definitions, and examples.

Approach to Research

Qualitative researchers have indicated it is important to focus on the natural setting where the phenomenon or the situation under study takes place, rather than recreating those settings in the controlled environment of a laboratory (Bogdan & Bilkin, 1998). Qualitative research seeks to provide holistic descriptions of the field and situation studied. The focus on the entirety of the situation encourages researchers to

provide rich descriptions of the situation (Creswell, 1988). By studying the teachers as they interacted within their online communities, this research follows in the traditions of qualitative research since learners were observed in their natural environment --their online classrooms.

In this study, I analyzed the textual discussion threads of teachers who participated in online learning communities in response to the central question:

What was the role of social presence in online professional development communities for teachers?

This broad question suggests the following sub-questions:

1) How could the textual discussion threads of online courses describe the social presence of online community members?

2) What social role did the moderator play in the textual discussions?

A pilot study-main study approach was used in order to gain information about the research process as well as the findings. The pilot study approach allowed me to determine if the data collection process and subsequent analyses were rigorous and could be repeatable. I also needed an approach that was flexible enough so that I could make corrections or modifications to the study as needed. The pilot study-main study approach met those needs. The complete pilot study is included in Appendix A.

A main study was conducted after the pilot study was completed. Following this, the study was refined through an additional focus on the moderators. In addition, analysis errors were corrected prior to the main study implementation phase.

Researcher as a Tool in Qualitative Research

My experiences as a student, teacher, administrator and researcher allowed me to study the written responses of these teachers from a number of perspectives. It was very important to analyze not only what was written in the discussion threads by the teachers, but also to capture their teaching experiences and the focus of the discussion topics in the online courses. In order to understand the importance of online learning and distance education, it was necessary to examine the various inter-related components that affected both the social presence of the community and the teacher.

There were several advantages that I had because I was the research tool. One was the ability to access the courses within Desire2Learn whenever I needed to. My position as a district technology administrator helped streamline the data collection process. Another advantage was that I knew all of the moderators who taught the various courses and helped them prepare the content that would be used. This information allowed me to have more than a cursory understanding of the subjects or discussion thread topics that they used. This proved invaluable because I did not have a strong background in elementary education and the online courses that were studied focused on strategies and content used at the elementary school level.

There were also some disadvantages to me being the researcher. Although I attempted to remain outside of the actual courses themselves, it was very difficult to ignore references or questions that pertained directly to me or to my office. Another disadvantage was the fact that I knew a great many of the teachers who took the courses. I had either previously taught them in another course or had a collegial relationship with them because they were interested in technology and its use in the classroom. It was

often hard to reconcile the fact that I wasn't enrolled in the courses and couldn't respond to their questions or help them with issues since my role was that of a researcher and not a teacher. I had to remain focused on how the community members interacted with the moderator and what their written responses said. To address these challenges during the analysis phase of the research, I was careful to examine the inter-rater reliability of the coding (see *Analysis of Discussion Threads* section later in Chapter 3).

Research Participants

Pilot study

28 were teachers enrolled in an online course offered by Carroll County Public Schools called "*Technology Literacy in the Elementary Classroom*". From that pool of teachers, 12 were randomly selected to participate in a sub-group called the *Social Presence Group*. The remaining 16 teachers were placed into another sub-group called the *Discussion Thread Group*. The smaller group (social presence) was studied more thoroughly via content analysis and self-reflection while the larger group (discussion thread) was only studied to confirm or deny what was learned from the smaller group.

Twelve teachers were chosen to limit the pilot study to a small number of people at each academic level: four elementary teachers, four middle school teachers, and four high school teachers. Gender was not a criterion for selection, though a balance of both male and female participants in this group was attempted. However, this was not possible because the course that was selected for the study had only one male available at the time. In addition, the course focused on technology literacy in the elementary school classroom, and thus, the majority of the study participants were from the elementary teaching level (and the majority also female). The two male middle school teachers who

participated were also certified in elementary education and therefore their inclusion in the study group was accepted.

I obtained written permission from the Assistant Superintendent of Instruction before contact was made with any staff members. Teachers were individually contacted and asked if they were interested in participating in the study. I explained to them the nature of the study as well as informed them that their participation was completely voluntary. Teachers were chosen according to the following criteria: (a) they were currently taking an online learning course within Carroll County Public Schools using the Desire2Learn learning management system; (b) they were interested in sharing their experiences regarding online learning activities with me; (c) they were willing to allow me to study their written responses as a part of the discussion threads of the course.

Social presence group

The twelve teachers who comprised the *Social Presence Group* were enrolled in the online course mentioned previously where online discussion topics were a part of the course activities. They allowed their discussion thread responses to be analyzed and also completed a Social Presence Questionnaire and a Background Questionnaire as well.

Discussion thread group

Sixteen participants in the *Discussion Thread Group* were also enrolled in the same course as the *Social Presence Group*. These teachers also agreed to have their discussion thread responses analyzed. Permission to study these responses was obtained by posting an "option-out" notification on the home page of the course. Teachers who

did not wish to have their discussion thread responses studied could notify me and their responses would not be used in the study. No teachers opted out.

Nine different discussion threads were selected at random and studied during the 30-day study period of time.

Main study

The purpose of the main study was to further my exploration of the role of social presence in online professional development communities for teachers. However, while the focus areas were essentially the same, the overall size and scale of the study were considerably larger than those in the pilot study. After examination of the pilot study's results, an additional component was added to the study that focused on the profile of an online teacher or moderator and how their role might change the social presence of the online community with which they worked.

There were 94 teachers enrolled in three online course offered by Carroll County Public Schools, "*Using Technology to Improve Student Achievement*", "*Online Coaching for Facilitators"*, and "*Elementary Science"*. The first course, "*Using Technology to Improve Student Achievement*", was a graduate course from McDaniel College that focused on technology use in the classroom to improve student achievement. The second course, "*Online Coaching for Facilitators*" was for teachers who volunteered to get assistance and strategies to help with daily classroom management issues. The last course, "*Elementary Science*", was not actually a course in the traditional definition, but a collection of teachers who worked to together to create, revise, and update the current elementary science curriculum guide.

From that pool of teachers, 36 were randomly selected to participate in a smaller group called the *Social Presence Group.* The remaining 58 teachers were placed in the *Discussion Thread Group*. I chose 36 teachers because I wanted the number of participants to be approximately three times that of the pilot study. Written permission from the Assistant Superintendent of Instruction was granted previously for the Pilot Study and I contacted all 36 teachers via email and asked if they were interested in participating in the study, and 26 of them responded and agreed to participate.

In summary, 26 teachers in the *Social Presence Group* agreed to participate in the study by allowing the examination of their threaded discussion responses and completing the social presence survey and the background/demographic survey. The remaining 68 teachers were called the *Discussion Thread Group* because they only allowed the examination of their discussion threads. As in the pilot study, the larger, *Discussion Thread Group* was used to confirm the results of the smaller *Social Presence Group*.

Social presence group

The twenty-six participants who comprised the *Social Presence Group* were enrolled in the three online courses mentioned above and were required to respond in writing to the online discussion topics as a regular part of each course's activities. These twenty-six teachers represented two different teaching levels—elementary and middle. Gender was not a criterion for selection; however an attempt was made to balance both male and female participants. Despite the fact that the online courses focused on a variety of subjects, the majority of the study participants were from the elementary teaching level and again, as in the pilot study; the majority of them were female. Only one male middle school teacher participated. As with the pilot, members of this group

allowed their discussion thread responses to be analyzed and completed a Social Presence Questionnaire and a Background Questionnaire as well.

Discussion thread group

There were sixty-eight teachers in the *Discussion Thread Group* who enrolled in the same three online courses as the *Social Presence Group.* These teachers also agreed to have their discussion thread responses analyzed. As with the pilot study, I obtained permission to study their responses by posting an "option-out" notification on the home page of each course. None chose to opt-out.

Twenty-nine different discussion threads were selected at random and studied during the 30-day study period of time

Moderator group

The moderator group was comprised of five teachers who were responsible for the content, organization, and delivery of instruction for each of the online courses. Their online discussion responses were studied and compared to the two other groups, however the primary purpose for their addition was to study the types of questions they asked and what relationship this had on responses in the discussion threads.

Participant Experience

In order to best understand online community interactions and communications it is also important to understand the *context* of how the teachers used the technology. The online courses used in this study were courses that teachers took for continuing professional development credits. As required by their contracts, the teachers had to take a minimum of six credits every five years in order to maintain their certification in their

content area and these courses were offered so they could meet those requirements. The courses had been taught face to face for a number of years, but this was the first time they were offered via *Desire2Learn*. This challenged the teachers in two ways. First, they faced the demands of the regular course work presented by the moderators and second, they faced the demands of learning the interface and functionality of a new learning management system.

Pilot study

The teachers involved in the pilot study were enrolled in a graduate level course which was designed for elementary teachers (K-5), media specialists, technology coordinators, and administrators. The course provided an overview of the Maryland Technology Literacy Standards and how to integrate them into classroom instruction. An overview of the *Microsoft Office Suite, Kidspiration*, and content websites from the Internet was also provided. Teachers learned effective technology strategies that could be used to integrate technology more extensively into the teaching/learning process. They completed tutorials in programs such as *Kidspiration, Word*, *PowerPoint*, and *Excel*. They also designed, created, and evaluated instructional materials used to facilitate student learning. *Desire2Learn* served as a repository for lessons created as well as the focus for discussion threads in which the participants posted responses on a weekly basis.

Main study

The three courses used in the main study were diverse in topic and purpose. The first one, “Elementary Science” was a course where the participants studied the current

elementary science curriculum and recommended changes and additions. *Desire2Learn* facilitated and streamlined that process because the teachers posted suggestions and changes and their comments served as the foundation for the discussion threads.

The teachers in this course focused on issues at the school and district levels that related to opportunities for students to learn and opportunities for teachers to teach science. They were responsible for the design, development, and revision of the elementary science program within Carroll County Public Schools.

The second course used in the main study was called "Using Technology to Improve Student Achievement". The focus of this course was on data collection and analysis and how technology facilitated that process. The teachers looked for ways to study data in order to make better instructional classroom decisions. They identified best practices in instruction at the elementary level and assessed the professional development needs of each school. *Desire2Learn* was used to coordinate their discussions about the various methods of collecting data and how it could be used effectively in the classroom.

The third course used in the main study was called "Online Coaching for Facilitators". This course focused on the instructional support process used to develop a community of learners. The teachers were coached by the instructors of the course and other members of community on methods and strategies that could be used to improve their instruction in the classroom. They developed a shared understanding and reflected on lessons learned through the threaded discussion using *Desire2Learn*.

The goals of each of the three courses used in the main study were very different and although the use of technology was a common element in all of them, they used the threaded discussion areas to meet the specific purposes of each online community.

Data Collection

Online community technology

The *Desire2Learn Learning Management System* was chosen over other multi-platform learning management systems based on my experience with the specific application and its availability to the Carroll County Public Schools. Carroll County Public Schools was the lead county in a 14-county consortium which was responsible for the selection and testing of a learning management system for final recommendation for implementation by the Maryland State Department of Education. As funded through the *Enhancing Education through Technology (*EETT*) Grant of 2002*, Carroll County received funding for the acquisition, modification, and implementation of the selected learning management system.

The learning management system served as a secure portal for teachers involved in the consortium to form online communities, share electronic resources, and communicate with each other in a variety of ways: synchronous and asynchronous discussions, group chat, and simple email. The system allowed teachers to access the information at any time they chose and was not dependent on any one school system's infrastructure for operation.

Teacher participants belonged to learning communities called e-organizations (*e-Orgs*) in which they have access to all the participants in that particular organization.

Background questionnaire using surveymonkey

SurveyMonkey (http://www.surveymonkey.com), an online data collection application, was used to gather survey data in an efficient manner. Each of the surveys was emailed via SurveyMonkey to the selected participants' email accounts within the Carroll County Public School System.

The *Background Questionnaire* was used to gather basic demographic and technology-related data from the Social Presence Group. Data elements included their frequency of technology used in the classroom, teaching level, and total years of experience.

The questionnaire was modeled after ISTE's (Kimball, 2001) Technology Support Index which collects data on the efficiency and support capacity of various technology-related staff development areas such as "Comprehensive Staff Development Programs", "Online Training Opportunities", and "Just-in-Time Training". The questionnaire consisted of 20 multiple choice questions and the participants responded by simply clicking on a radio button that corresponded to a five–point Likert scale response: "*Never-Yearly-Monthly-Weekly-Daily*". There were twenty total questions with ten questions focused on demographics and ten on their technology background. The scoring scale was as follows: zero represented "Never", one represented "Yearly". Two represented "Monthly", three represented "Weekly" and four represented "Daily". The full questionnaire is found in the Appendix.

Sample Questions included:

"How often do you or your students collaborate with others in an electronic or online learning environment?"

Never, Yearly, Monthly, Daily, Never

"How often do you use technology to allow students to work collaboratively or cooperatively?"

Never, Yearly, Monthly, Daily, Never

"How would you classify yourself as a technology user?"

A) Beginner—needs assistance & support
B) Confident on your own
C) Capable of teaching others

"How much technical training have you taken within the last three years?"

A) Less than 10 hours
B) 10 – 30 hours
C) 31 -50 hours
D) More than 50 hours

Social presence questionnaire

The *Social Presence Questionnaire* was developed based on the research of Garrison, Anderson, & Archer (2003) to measure the three categories of communication responses that are included in social presence: affective responses, interactive responses, and cohesive responses. This was designed to analyze how often the participants self-reported the behaviors of the 14 social presence indicators while they participated in their online community. It consisted of 45 questions with a 4 point Likert-scale. The data from the questionnaire was used to analyze whether the group's self-reported observations of their online behaviors could be confirmed by the number of actual social presence indicators they used. The full questionnaire is found in the Appendix.

Sample Questions included:

"Do you express your personal feelings when you are in an online environment?"

Always, Sometimes, Seldom, Never

"Do you use repetitious punctuation when you communicate to others in an online community?"

Always, Sometimes, Seldom, Never

Data Analysis

Content analysis

Content analysis was a technique used to make replicable and valid inferences in the textual, pictorial, symbolic, and communication data (Krippendorf, 2004). It consists of a "division the text into certain units of measure and a quantification of these units according to certain rules" (Rosengren, 1981; p, 34). In order to study the data by these rules or classifications, a specific technique was used called "interpretative analysis" (Neuendorf, 2002), which involves the formation of theory from the observation of messages and the coding of those messages. It involves developing analytical categories and doing comparative analyses.

There were two advantages to using content analysis. First, it was an unobtrusive technique that could handle a large quantity of unstructured data. As an external observer of the various online communities, I felt that the data collection and examination of the data needed to be as invisible as possible. Although the community members were all aware of my study of their discussion threads, I did not want to be seen as an active member of any of the communities. However, I was also concerned with the large number of discussion threads, and since I only had a 30-day period of time for the research, I felt that I needed a research technique that could handle a large amount of information.

Unit of measure

The first step in the content analysis of textual communication was to identify the unit of analysis. These units of analysis set limits on the information to be considered in the descriptions. In this case, I chose to use the sentences within the discussion threads as the units of measurement. Although individual words are the smallest and most accurate coding unit (Krippendorf, 2004), I felt that the context of the individual sentence would provide sufficient information regarding social presence.

Categorical analysis

Researchers have reported that categorical distinctions define units of membership in a class or category by their commonalities (Krippendorf, 2004). For this research, I used the three categories that broadly identify social presence as created by Garrison, Anderson, and Archer (2000). Based on these three categories of social presence, I used a set of fourteen indicators to analyze these discussion threads.

In the tables that follow, the indicators, definitions, and examples of the social presence indicators are presented that were used to code the discussion threads.

Coding of Social Presence Indicators

Affective responses

Affective responses are a unique characteristic which define social presence and participation in an online community (Garrison, Anderson, & Archer; 2003). These emotional responses have been shown to impact the reciprocal relationship among participants in an online community. Table 1 shows the indicators, definitions, and examples of the affective responses.

Table 1
Affective Responses: Indicators, Descriptions, and Examples

Indicator	Code	Definition	Examples
Expression of Emotions	EE	Personalized expression of one's emotions, feelings or moods.	"I just love it when….!" "This is great…!"
Expression of Values	VA	Personalized expression of a value or an opinion statement within the context of the discussion.	"I think this is a terrible activity…." "I feel this activity is not good at all with 3rd graders."
Unconventional or Conspicuous Punctuation or Capitalization	PU	Textual display that indicates feelings or the use of emoticons	"Did you see that play!!!!!!!!!!!" "LOL, that made me ☺"
Use of Humor	HU	The use of textual responses to tease, or to make jokes.	"That was so funny, I forgot to laugh." "Hahahahahahaa!!!"
Self Disclosure	SD	Personal information outside the scope of the class or community not typically expected.	"I didn't complete my assignment, but I liked what you did." "I hope no one at school finds this out, but…"
Personal Advice	PA	Statements which offer personal advice to one or more of the other members.	"If I were you, I wouldn't go to the meeting…." "My advice would be to talk to…."

Interactive responses

Interactive responses focused on the contributions of each user to other's conversations within the online community. These types of responses were vital in the

creation of a trusting and respectful environment in the textual online world. Table 2 shows the indicators, definitions, and examples of the interactive responses.

Table 2
Interactive Responses: Indicators, Descriptions, and Examples

Indicator	Code	Description	Examples
Continuing a Discussion Thread	CT	The continuance of an existing discussion thread by often using the "Reply" or similar feature of the software.	"Reply to tee shirt idea—Teacher's Name Subject: tee shirt idea"
Expressing Agreement	AG	Expressing agreement with other messages or with others.	"I agree with what you said…" "You're right about the…."
Expressing Appreciation	AP	Expressing appreciation for another person's actions or written responses.	"I really like that critique…." "I appreciate you sharing your story about the …."
Asking Questions	AQ	Questions asked to other members of the discussion thread or to the online instructor/moderator	"How do I open a file from the locker…?" "Do you know what the URL is for that site…?"
Factual Responses	FA	Factual responses to another's person's response that explains something or provides factual information	"The answer is on the last page of the sheet." "We used several methods of assessment for that."

Cohesive responses

Statements in this category indicated that members may have actually felt like they were part of a larger group—only separated by time or distance. Community members who addressed each other by name and used more socially-related communication helped build and sustain a sense of group commitment. Table 3 shows the indicators, definitions, and examples of the cohesive responses.

Table 3
Cohesive Responses: Indicators, Descriptions, and Examples

Indicator	Code	Description	Examples
Vocatives	VO	Addressing individuals of the online community by name, nickname or a slang name.	"Hi Joanna. I am interested in your comment…." "Devon that was a very good contribution…."
Greetings & Salutations	GS	The textual statements that mirror more social types of communication to begin, interrupt, or end a specific conversation.	"Hi Michille, I am having some trouble with …." "Good job, Thanks Jim…."
Group Reference	GR	Reference to members of the online community as a group or larger organization. Typically by the use of inclusive pronouns such as "we" or "our group".	"Barb, our community is really coming along…" "We have got this curriculum in good shape…."
Phatics	PH	Statements that are purely social in nature and have no other purpose other that to interject personal and social feelings.	"The weekend is finally here--awesome…!" "The weather looks good for the party…."

Coding example

Hand-coding of the texts was done by a three person team (including myself) where each sentence phrase was read and classified as one of the social presence indicators. Researchers have indicated the advantages of using teams to analyze data. Guba & Lincoln (1981, p. 237) indicated that teams "can be organized so as to provide internal checks on rigor, triangulating concepts and insights developed by other team components." These teams can also provide mutual support in naturalistic studies (Guba

& Lincoln, 1981). After all phrases were coded, the results were discussed among the scorers and the final determination of the phrase's classification was decided by the majority of the scorers. Attachments included in the discussion threads were ignored and not included in the study.

An example:

"*I am in desperate need of some help. I am not familiar with Kidspiration and have yet to manage some time today to play around and create my idea. I have been trying to open your word work game and the other attachments. They won't open. What am I doing wrong? aAAAAAhhh!! (Stop laughing Jen☺)"*

The above was coded as follows:

"*I am in desperate need of some help" (Self-Disclosure--SD). I am not familiar with Kidspiration and have yet to manage some time today to play around and create my idea. I have been trying to open your word work game and the other attachments. They won't open. (SD.) What am I doing wrong? (Ask Question-AQ). ? aAAAAAhhh!! (Punctuation-PU). (Stop laughing Jen☺) (Humor-HU) (PU).*

Analysis of Discussion Threads

In order to analyze each of the sub-groups separately, the phrases written by the members of each one (Social Presence, Discussion Thread, Moderator) were identified and separated from the other. Each group then was analyzed as an entity on its own.

The total number of phrases from each of the study groups was rank ordered from the most frequent to the least. The rank ordered list was then divided into thirds which represented the cut-off points for each of the three levels and corresponded to a high,

moderate, and low level of that social presence indicator. Based on the number of phrases, the five indicators that had the most frequent number of phrases were classified as having a high level of social presence. The five indicators that had the least number of phrases were classified as having a low level of social presence, and the indicators that fell into the middle third were classified as having a moderate level of social presence.

Chapter 4: The Main Study

Summary

This chapter describes the main study. It provides descriptions of the three courses used and representative examples of the conversations between the moderators and the teachers enrolled in each one of them. As with the pilot study, the main study provides categorical analysis of the social presence indicators and a rank order summary. An additional indicator called "Factual Responses" was included in this study to describe statements that could not be classified in the pilot study.

This chapter also includes an additional focus area called the social role of the moderator and its impact on the types of question they would ask in the threaded discussions. Summaries of the social presence indicators of both the Social Presence and the Discussion Thread Groups are presented as well as the added Moderator group.

Course Descriptions

There were three courses used for the main study and their descriptions, discussion thread questions, and sample responses are included below.

The first course that was used was called "Elementary Science" which focused on issues at the school and district levels and provided opportunities for science teachers to create, edit, and enhance curricular resources. Maryland content standards provided the criteria used to make judgments about the quality of the K-12 science program in Carroll County. Those standards were used by the individuals and groups who were responsible for the development and adaptation of science programs used in the system. Teacher

participants were paid an hourly stipend (up to the maximum allowed) for their participation in the community and the development of the curriculum's activities.

Elementary Science

The online experience of the course featured the continuous use of the online community to develop a digital curriculum. There was no fixed stopping point for this course which allowed the teacher's unlimited time to submit and critique each other's work or lesson plan. The moderator's role in the community was to guide the teachers through this process by posting questions for the teachers to respond to or sample work for them to edit or modify. The goal was to improve the quality of the existing curriculum's lessons as well as add new material. For example, in week one:

The moderator: "Does the Unit Overview reflect our enduring understanding? Are we missing anything?"

Sample response from a student: "After reviewing Lesson 1 for the 20th time, I am wondering if some of the activities in this lesson should be put into a science handbook available for all grade levels. For example, creating the list of classroom rules, reviewing science process vocabulary, setting up science notebooks would be items for a science handbook, not the first lesson in the curriculum."

In week three, the following example was found:

The moderator: "What elements do we want to include in our Lesson Plan Template? Take a look at some examples.

http://www.mdk12.org/instruction/curriculum/science/design_sci_model.html

http://www.mcps.k12.md.us/curriculum/science

Please post your response for the group to see or add your ideas and comments."

Sample response from a student: “Over the break, I developed a lesson plan template combining elements of all the lesson plans previously submitted. I placed the lesson plan in my locker and made it public. I hope I did this correctly! (Teacher’s Name)”

In addition, peer discussions were seen as online community members responded to the sample lesson plans submitted by one of the teachers. For example, a teacher submission began the discussion for week five:

Teacher 1 response: “Here is my lesson plan idea. The side bars would be on the right and left columns of the page. I would like to add another side bar for elementary teachers to see the connection of the topic to other content areas.”

The moderator: “OK, classroom teachers….What do you think? Anybody want to add, change, modify?”

Teacher 2 response: “I like the first one better. I like the boxes!!!!!”

Teacher 3 response: “Great Job!!!!! I like the format---those new boxes make it easier to see at a glance. If we could combine yours and (Teacher’s name) and add some more hyperlinks, it would be perfect!!!!! At our next meeting we should be able to use paper copies to combine.”

The moderator: “Thanks so much (Teacher’s name) for sharing your thinking with us!!! I hope that our other participants will take (Teacher’s name) lead and comment on lesson plans so that we can get one stand form ready for our curriculum writers.”

Using Technology to Improve Student Achievement

The second course was called “Using Technology to Improve Student Achievement” and the content focused on the Maryland Student Technology Literacy

Standards (K-8), the integration of *Microsoft Office Suite* applications and *Kidspiration*, into instructional activities based on curriculum standards. They also identified areas of School Improvement Plans where technology supported instruction and student achievement. The participants received continuous professional development credits after they successfully completed the course and received no hourly wage or stipend.

The online experience for this course was a structured 18-week course with weekly activities for the teachers to complete. The discussion thread questions that were posted by the moderator were to be completed by the teachers to supplement the other assignments that were given. For example, in the first week the following was posted by the moderator:

The moderator: "As we get started in our online discussion topics.... there has been much interest in hearing how others are utilizing the one computer classroom. Whereas we used to use the one-computer classroom as a classroom center for "drill and kill" software practice, we have spent time in the past year exploring how to use this most invaluable resource to support CCPS curriculum. How are you using your one computer classroom? What does it look like? Are you using it as an instructional tool or an independent tool? Please share with us your successes and/or pitfalls."

Teacher 1 response: "I am a fourth grade teacher and I teach 3 classes of Math and 1 class of Science and Social Studies. I have my classes for only an hour so I find it difficult to get the children using the computer for independent practice during that time. I use my computer much more so as a teaching tool. I keep it hooked up to the tv (sic.) monitor in the room and use it almost on a daily basis to teach or reinforce skills. I use it as simply as to put up warm ups and have them followed by the correct answer. I use it

alot (sic.) to organize information we are working on, particularly in Science. We use Kidspiration constantly to keep track of our data and our operational definitions. It is easy to keep going back to this and changing it as we gather more information. I use Power Point a lot (sic.) to create games to review Math clusters. I also use Excel to show the data from both pre and post tests in Math. We then graph the data and find the range, median, mode and mean. The kids like working this through and then having the formulas in Excel "check" them."

Teacher 2 response: "When brainstorming ideas on chart paper with a group, I have children type/copy their comments into a Kidspiration2 organizer. When I finish making my chart, all we have to do is save and print, and each child can have a copy for independent use. This works if the computer is close to where you are working, and the ideas are limited to phrases."

Teacher 3 response: (in response to Teacher 2) "Great idea, I'll have to try it. This year I do have 2 groups I see in the resource room and use the computer more as a station to support skills. Also, I use the Kurweil as a tool to reread information when the students are working on independent work from their classroom for a prompt that is not on their reading level…"

Teacher 4 response: (in response to Teacher 2) "That's a great way for the kindergarten to start using the writing piece, with me making the web in Kidspiration…great idea!!!!!"

Additionally, in week six, this interaction was observed:

The moderator: "A question as old as time, or at least as old as the personal computer, is how to motivate people to use computers for more than administrative

purposes. We want to discuss how you motivate other teachers to use their computer instructionally whether it is the one computer in the classroom or in the computer lab. How do you get those who are not involved engaged in your building?"

Sample teacher response: "I agree that showing someone is the best motivation to get them to try something new. I showed my team mate the virtual manipulatives site and then offered to have my students go in with her class. My team mate took me up on the offer and things worked out great! She has even gone in a few times by herself now :) I had my math students make bar graphs in excel for the graphing cluster and now others on my team want to give it a try."

Instructional Support Online Coaching for Facilitators

The third course was called "Instructional Support: Online Coaching for Facilitators" where the teachers reviewed the critical elements of the Instructional Support Process and learned about classroom management, organization, and teaching in an online learning community. The teachers were coached by the moderator and their peers in a secure, professional, and needs-based online learning environment which focused on their pre-determined needs. Participation in this community was voluntary but the teachers were strongly encouraged to take part because they had been identified as having problems in some of the above-mentioned areas. The course was less structured than the two previous ones and met for a total of nine weeks.

The online experience in this course focused on classroom-related instructional questions which were posted by the moderator that the teachers would respond to on a weekly basis. The following example is from the first week of the course featured this interaction:

The moderator: "Attached is a copy of the differences between online learning and traditional instruction (review from last month's meeting). Think about a recent professional development session that you have either attended or provided. What facets about it did you find helpful/discouraging? If this had been offered in an online environment, how might your response be different?"

Teacher response 1: "At a recent professional development session that focused on the use of concrete manipulatives, it was very important that the teachers were actually in the same room as the presenter. This session would have been less effective as an on-line session. On the other hand, a session focusing on the use of Virtual Manipulatives that are available on-line would be perfect for this type of professional development."

Teacher response 2: "More experienced educators are not as tech oriented as the newer teachers and their experiences and knowledge is essential for this learning."

Teacher response 3: "The ability to post documents or power points for staff to reference after the in-service would allow for the activity to continue after the day is over."

Teacher response 4: (In response to teacher 3) "I think that teachers really utilize the documents as resources for later use. I now that I have gone back in the D2L community AFTER the class was over for resources from staff development's class on technology."

Teacher response 5: (in response to moderator's original post) "We could have prepared teachers with what was expected in advance. Therefore, teachers could have

come prepared and though about the topic prior to the activity. This could help the discussion move along quickly."

Discussion Thread Group: Analysis

Of the 1799 discussion thread phrases that were analyzed in this group, 40.24% of them were *Affective Responses*–responses which displayed their emotions There were 44.30% of the thread phrases which were *Interactive Responses*—which furthered the communication between community members and 15.45% were *Cohesive Reponses* – where the community members referred to themselves as a group or entity. Table 4 presents a complete summary of phrases of each category and the percentage of those phrases in all of the Discussion Thread Group.

Table 4
Discussion Thread Group Phrase Analysis

Category	Indicator	Number of Phrases	Percent of All Phrases
Affective	VA	342	19.01
	PU	220	12.23
	EE	100	5.56
	SD	37	2.06
	HU	25	1.39
	PA	0	0.00
Interactive	FA	429	23.85
	CT	149	8.28
	AP	106	5.89
	AQ	80	4.45
	AG	33	1.83
Cohesive	GS	131	7.28
	VO	80	4.45
	GR	46	2.56
	PH	21	1.17

Table 5 presents the rank order of the social presence indicators observed in the *Discussion Thread Group.*

Table 5
Discussion Thread Group--Rank Order of Social Presence Indicators

Level	Indicator	Number of Phrases	Percent of all Phrases	Examples
High	FA	429	23.85	*"The update I used to fix it is on the company's web site."*
	VA	342	19.01	*"I don't think that is a positive thing to say to a beginning teacher."*
	PU	220	12.23	";) I'm glad it wasn't me!!!!!!!!!!!!!!!!'
	CT	149	8.28	Software dependent
	GS	131	7.28	*"Greetings Everyone!!! (Teacher's Name) here!"*
Moderate	AP	106	5.89	*"I appreciate all the work you do for us in the discussions (Teacher's Name)*
	EE	100	5.56	*"Woo Woo, I think we are really staring to get it!!"*
	AQ	80	4.45	*"Can someone help me with the Excel template? I must be doing something wrong"*
	VO	80	4.45	*"Jim, what time are you going online?"*
	GR	46	2.56	*"I'm not sure if our group is as up on the technology as yours!"*
Low	SD	37	2.06	*"I missed the assignment turn in date."*
	AG	33	1.83	*"I agree with (Teacher's Name), we need more time to reflect on our best practices."*
	HU	25	1.39	*"Stop laughing at me!! ☺, I know it was a funny thing to say though!"*
	PH	21	1.17	*"The weekend is finally here. I can't wait to get out of this place!"*
	PA	0	0.00	*No Examples*

Social Presence Group: Analysis

The examination of the discussion threads of the *Social Presence Group* helped to confirm the online behaviors observed in the *Discussion Thread Group*. The 26 participants of the *Social Presence Group* had a total of 2886 phrases that were studied and coded. Their total of phrases accounted for 60.96% of all of the phrases found in all of the discussion threads.

Of the 2759 discussion thread phrases that were analyzed in this group, 47.84% of them were from the Affective Category. There were 36.22% of the thread phrases from the Interactive Category and 18.67% were from the Group Cohesion Category. Table 6 presents a complete summary of phrases of each category and the percentage of those phrases in all of the Social Presence Group.

Table 6
Social Presence Group Phrase Analysis by Category

Category	Indicator	Phrases	Percent of All Phrases
Affective	VA	761	26.37
	PU	292	10.12
	EE	246	8.52
	SD	11	0.38
	HU	10	0.35
	PA	0	0.00
Interactive	FA	409	14.17
	CT	256	8.87
	AP	159	5.51
	AQ	136	4.71
	AG	42	1.46
Cohesive	VO	408	14.14
	GS	81	2.81
	GR	30	0.69
	PH	6	0.21

Table 7 presents the rank order of the social presence indicators observed in the *Social Presence Group*, the number of phrases, and examples of each one.

Table 7
Social Presence Group--Rank Order of Social Presence Indicators

Level	Indicator	Number of Phrases	Percent of all Phrases	Examples
High	VA	761	26.37	*"My opinion about this is very strong….I think it is the best thing ever for this type of activity."*
	FA	409	14.17	*"Do a search on mentors and it's the second on that comes up on Google."*
	VO	408	14.14	*"Cindy, you did a good job.'*
	PU	292	10.12	"I am gettttttting frustrated!!!!!!!! ☹"
	CT	256	8.87	*Software dependent*
Moderate	EE	246	8.52	*"I think the principal needs to play a bigger part in this decision"*
	AP	159	5.51	*"You are all sharing a lot of good stuff. I know others appreciate it."*
	AQ	136	4.71	*"Where is the latest version of the unit two doc?"*
	GS	81	2.81	*"Hey Devon, how was that last lesson of yours?"*
	AG	42	1.46	*"I agree with what Cindy said, it is important to think about how it helps us learn."*
Low	GR	30	0.69	*"I wish we could keep this class going forever, we have all really grown."*
	SD	11	0.38	*"My planning wasn't too hot that year and I needed to improve."*
	HU	10	0.35	"It was sooo funny. She didn't even know that she cc'd the whole school!!!"
	PH	6	0.21	*"What time does the race start on Saturday? I need to pick up by son by 2:00 PM"*
	PA	0	0.00	*No Examples*

As in the pilot study, the data in the Social Presence Survey Questionnaire was examined. The members of the *Social Presence Group* self-reported their use of the social presence indicators in their discussion thread responses. Table 8 shows the percentage of the group that said they used that particular social presence indicator and the actual number of phrases of that indictor they actually wrote. It also shows the overall level of the indicator compared to the rest of them.

Table 8
Social Presence Group

Level	Indicator	Percent of Group who said they used this indicator	Number of Phrases	Percent of all Phrases
High	AP	83.33	159	5.51
	VO	80.00	408	14.14
	FA	76.92	409	14.17
	AG	74.36	42	1.43
	GS	65.68	81	2.81
Moderate	AQ	62.68	136	4.71
	EE	61.54	216	8.52
	VA	60.26	761	26.37
	PU	52.56	292	10.12
	CT	52.26	256	8.87

High Level Indicator Analysis

The indicator that the S*ocial Presence Group* said they used the most was *Expressing Appreciation* (AP). This group reported that 83.33% of them used this indicator in their online discussion threads. It was followed by *Vocatives* (VO), *Factual Responses* (FA), *Expressing Agreement* (AG), and *Greetings and Salutations* (GS).

Low Level Indicators Analysis

There were five indicators of the *Social Presence Group* that had low levels of social presence based on the number of phrases that were coded for each one. In addition, there was a high percentage of the group that said they didn't use this indicator. Table 9 describes this.

Table 9
Social Presence Group Low Level Indicators

Level	Indicator	Percent of Group who said they did not use this indicator	Number of Phrases	Percent of all Phrases
Low	SD	87.71	11	0.38
	HU	81.67	710	0.35
	PH	68.92	0	0
	GR	64.00	0	0
	PA	0.00	0	0

Self disclosure

There were 11 phrases coded as *Self Disclosure* (SD) and this represented 0.38% of all of the phrases written by the Social Presence Group. From the data, this was determined to be a low level of this social presence indicator because the number of phrases that were coded as *Self Disclosure* was low.

From the data in the Social Presence Questionnaire, the Social Presence Group reported that 85.71% did not self disclose personal information when they communicated to others in the online community and this corresponded to the low number of *Self Disclosure* phrases written by them. Based on the data, the majority of the Social Presence Group said they did not self disclose information and the low number of (SD) phrases they wrote confirmed it.

Humor

There were 10 phrases coded as *Humor* (HU) and this represented 0.35% of all of the phrases written by the Social Presence Group. From the data, this was determined to be a low level of this social presence indicator because the number of phrases that were coded as *Humor* was low.

From the data in the Social Presence Questionnaire, the Social Presence Group reported that 81.67% did not use humor or made jokes to others in the online community and this corresponded to the low number of *Humor* phrases written by them. Based on the data, the majority of the Social Presence Group said they did not use H*umor* and the low number of (HU) phrases they wrote confirmed it.

Phatics

There were 6 phrases coded as *Phatics* (PH) and this represented 0.22% of all of the phrases written by the Social Presence Group. Based on the data, this was determined to be a low level of this social presence indicator based the amount of phrases that were coded as *Phatics*.

From the data in the Social Presence Questionnaire, the Social Presence Group reported that 68.92% did not use purely social language to communicate to others. Based on the data, the majority of the Social Presence Group said they did not use *Phatics* and the low number of (PH) phrases they wrote confirmed it.

Group reference

There were 30 phrases coded as *Group Reference* and this represented 0.69% of all of the phrases written by the Social Presence Group. From the data, this was

determined to be a low level of this social presence indicator because the number of phrases that were coded as *Group Reference* was low.

From the data in the Social Presence Questionnaire, the Social Presence Group reported that 64.00% did not refer to themselves by reflexive pronouns such as 'we' or 'us' and this corresponded to the low number of *Group Reference* phrases written by them. Based on the data, the majority of the Social Presence Group said they didn't refer to themselves as a group and the low number (GR) phrases they wrote confirmed it.

Comparison of Groups

The ability of the participants in the main study to project themselves socially and emotionally fell within a range of social presence levels. In this study, some of the social presence indicators were observed at high levels and some at low levels, but when studied as a whole, these indicators revealed some interesting details about the levels of social presence in these online professional development courses.

The phrases of the *Social Presence Group* and the *Discussion Thread Group* were compared to see which social presence indicators ranked the highest and the lowest. High frequencies indicated that the environment was warm and collegial and that the participants felt a sense of affiliation with each other. Low frequencies indicated that the social environment was cold and pragmatic and the participants used things in solely a pragmatic manner for the exchange of information (Garrison, Anderson, and Archer 2001). Table 10 shows the rank order and corresponding levels of social presence for the indicators in both groups.

Table 10
Rank Order Levels of Social Presence Indicators by Group

Level	Discussion Thread Group	Social Presence Group
High	FA	VA
	VA	FA
	PU	VO
	CT	PU
	GS	CT
Moderate	AP	EE
	EE	AP
	AQ	AQ
	VO	GS
	GR	AG
Low	SD	GR
	AG	SD
	HU	HU
	PH	PH
	PA	PA

Discussion Thread Group

High level indicators

Based on the high number of phrases that were coded in this group, the top five indicators were as follows: *Factual Responses* (FA), *Expressing Values or Opinions* (VA), *Conspicuous Punctuation* (PU), *Continuing a Discussion Thread* (CT), and *Greetings and Salutations* (GS).

Low level indicators

Based on the low number of phrases that were coded in this group, the lowest five indicators were as follows: *Self Disclosure* (SD), *Expressing Agreement* (AG), *Humor* (HU), *Phatics* (PH), and *Personal Advice* (PA).

Social Presence Group

High level indicators

Based on the high number of phrases that were coded in this group, the top five indicators were as follows: *Expressing Values or Opinions* (VA), *Factual Responses* (FA), *Vocatives* (VO), *Conspicuous Punctuation* (PU), and *Continuing a Discussion Thread* (CT).

Low level indicators

Based on the low number of phrases that were coded in this group, the lowest five indicators were as follows: *Group Reference* (GR), *Self Disclosure* (SD), *Humor* (HU), *Phatics* (PH), and *Personal Advice* (PA).

Moderator Group: Analysis

The examination of the discussion threads of the moderators helped to provide additional data and the results of this group was compared with both the Discussion Thread Group and the Social Presence Group. The five participants of the Moderator Group had a total of 437 phrases that were studied and coded.

Of the 437 discussion thread phrases that were analyzed in this group, 23.57% of them were from Affective Responses. There were 54.00% of the thread phrases from Interactive Responses and 22.43% were from Cohesive Responses. Table 11 presents a summary of each category from the Moderator Group.

Table 11
Moderator Group Phrase Analysis by Category

Category	Indicator	Phrases	Percent in All Phrases
Affective	PU	66	15.10
	VA	17	3.89
	EE	15	3.43
	HU	3	0.69
	SD	2	0.46
	PA	0	0.00
Interactive	FA	102	23.34
	CT	50	11.44
	AQ	34	7.78
	AP	30	6.68
	AG	20	4.58
Cohesive	VO	51	11.67
	GR	27	6.18
	GS	17	3.89
	PH	3	0.69

Table 12 presents the rank order of the social presence indicators observed in the *Moderator Group*, the number of phrases, and examples of each one.

Table 12
Moderator Group--Rank Order of Social Presence Indicators

Level	Indicator	Number of Phrases	Percent of all Phrases	Examples
High	FA	102	23.34	*"The project fold is not always set up prior to the school year."*
	PU	66	15.10	*"That was an excellent discussion!!!!!!!!!!!! Way to go. Keep up the good energy ☺ ☺"*
	VO	51	11.67	"*Hi Debbie, I sent your website to Cindy to consider for the Science curriculum."*
	CT	50	11.44	*Software dependent*
	AQ	34	7.78	*"Attached are a few of my ideas. Does anyone have anything they would like to add to get things started?"*
Moderate	AP	30	6.86	*"Great description of how to check lockers….Here is an extra bit of help…"*
	GR	27	3.89	*"It is difficult for us not to have a nice smooth path to follow. We truly are trail blazers!"*
	AG	20	4.58	*"Just a heads-up and a word of caution to everyone, we need to make sure of the right of the student….."*
	VA	17	3.89	*"Lately, I have been intrigued by how you can disguise an Excel document so it doesn't look like a typical spreadsheet."*
	GS	15	3.43	*"Hi everyone, hope you all had a good mini-break!"*
Low	EE	15	3.43	*"I am very excited to be a part of this group! We have so many talented people! I can't wait to pick everyone's brains!!"*
	HU	3	0.69	*"Would you believe that the computer 'ate' my last posting? It happens to me as well…."*
	PH	2	0.46	"*Please remember, to stay on topic and have fun with things. I know it's easy to wander in out discussions."*
	SD	2	0.46	*"This is a personal topic and should not be discussed here in this area."*
	PA	0	0.00	*No Examples*

Moderator Group

High level indicators

Based on the high number of phrases that were coded in this group, the top five indicators were as follows: *Factual Responses* (FA), *Conspicuous Punctuation* (PU), *Vocatives* (VO), *Continuing a Discussion Thread* (CT), and *Asking Questions* (AQ).

Low level indicators

Based on the low number of phrases that were coded in this group, the lowest five indicators were as follows: *Expressing Emotions* (EE), *Humor* (HU), *Phatics* (PH), *Self Disclosure* (SD), and *Personal Advice* (PA).

Chapter 5: Findings

Summary

This chapter summarizes the findings of the Main Study framed by the initial research questions from Chapter One. It describes the levels of the social presence indicators observed on both the Social Presence and the Discussion Thread groups. It also provides examples of moderator questions and teacher responses from the groups.

This chapter also provides examples of community created guidelines or policies and describes the relationship of this to observed teacher behavior. The *Acceptable Use Policy* of Carroll County Public Schools is also discussed as a larger influence on the communities.

High Level Social Presence Indicators

In examining this study through the framework of established theoretical concepts, the findings aligned with a number of existing studies. Preece (2001) identified the components of an online community as a combination of three separate but related elements: people, purpose, and policy. However, for part of this analysis, I studied both the high and low indicators of the Social Presence Group and the Discussion Thread Group to see if there was any relationship between these indicators and the policies that governed the communities. The following high level indicators were observed in both groups: *Factual Responses* (FA), *Continuing a Discussion Thread,* (CT), *and Conspicuous Punctuation* (PU). This showed that the Social Presence Group could represent the findings of the larger, Discussion Thread Group.

The online communities in this study were comprised almost exclusively by female elementary school teachers. Within these communities of practice, (Wegner, 1998) the teachers brought a diverse range of both teaching experience and technical knowledge. However, there was a common level of understanding--they knew the courses and the communities in which they were enrolled focused or used various aspects of technology in their content areas. This shared understanding or common ground of the participants was furthered by the asynchronous use of textual discussion. In these threads, the *Continuation of a Discussion Thread* indicator was one of the highest in both groups.

Continuing discussion thread

This indicator was ranked fourth in the Discussion Thread Group and fifth in the Social Presence Group. This high level of use was also confirmed by the Social Presence Group because the majority of them (52.56%) said they continued the discussion threads and the high number of phrases they wrote confirmed it.

The number of high level indicators also showed that the participants were willing to continue the communication process with the others members of the community. By the nature of the online courses, the teachers were required to be active participants who exchanged information, reflected on the statements or questions by others and provided feedback to one another. This learner-centered design of the online communities (Wagner & McCombs, 1995) encouraged active participation and collaboration among the teachers. The high *Continuing a Discussion Thread* indicator may also have been influenced by the requirements of the course itself. The purposes of all three online courses were somewhat diverse in content but each focused on collaborative knowledge

sharing and represented a knowledge-based educational community (Bruckman, 1999). The discussion threads were asynchronous and this allowed the teachers time to reflect and compose their responses before they were posted. These elements of reviewability and revisabilty (Preece, 2000) helped strengthen the levels of this social presence indicator and establish common ground among the community members.

Conspicuous punctuation

Both groups also had a high number of phrases that were coded as *Conspicuous Punctuation* in the discussion threads. Conspicuous Punctuation was ranked third in the Discussion Thread Group and fourth in the Social Presence Group. This high level of use was also confirmed by the Social Presence Group because the majority of them (52.56%) said they used *Conspicuous Punctuation* and the high number of phrases they wrote confirmed it. Representative samples of statements of this type are below:

"*An added benefit is NO LITTLE TINY LETTERS/WORDS TO PICK UP!!!!!"*

"I got knocked off line TWICE!!!!. That was not fun☹"

The software used in this study offered a limited amount of graphical icons, emoticons, or avatars for the participants to use. For this reason, they chose to use textual displays of emotions to "soften" (Lehent, 1998) their textual responses and express their emotions. Their expression of emotions and opinions to the other community members was an attempt to establish mental models with each other (Norman, 1986). Their high usage of *Conspicuous Punctuation* helped them reinforce their expressions so that others could be more aware of the underlying emotion behind the textual message. In more basic terms, the members of the online community were trying to act human and expressed their emotions. In a textual environment where emoticons were not readily

available, the participants reverted to expressing themselves in the only way that the system would allow—through the use of repetitious and conspicuous punctuation.

Factual responses

Both groups had a high number of phrases that were coded as *Factual Responses* in the discussion threads. *Factual Responses* was ranked first in the Discussion Thread Group and second in the Social Presence Group. This high level of use was also confirmed by the Social Presence Group because the majority of them (76.92%) said they used Factual Responses and the high number of phrases they wrote confirmed it. The following is representative sample of a *Factual Response* by a group member in response to a question:

"The 'About Microsoft Office Excel' is the last drop-down item in the Help Menu."

These factual responses illustrated that another person attended to the communication process by providing an answer to a question which, in turn, helped to sustain the relationships with the community members (Short et. al, 1976; Eggins and Slade, 1977).

Relationship to policy

Each of the online communities was governed by their own set of policies which outlined the requirements of the courses, the accepted style of communication, and the proper way to communicate with other members. In two of the courses, these policies were not explicitly stated, but were modeled more by the moderators of the communities. In the other course, *Elementary Science*, the set of policies was detailed in a list of seven

guidelines for the participants. These policy guidelines were posted on the home page of the course:

1) Keep all communication professional.
2) Keep your communications to the point
3) Ask for clarification if you do not understand what someone entered.
4) If you post a topic in the discussion board or send it in an e-mail, clearly identify it in the subject line.
5) Do not identify students by name online but by a description of a behavior.
6) Avoid writing e-mail messages or posting in newsgroups using all caps.
7) Use emoticons to add humor, animation to your thoughts.

It is important to analyze what these policies might have encouraged the community members to do as well as what it might have discouraged them from doing. The high number of *Factual Responses* could be tied to each of the first three policy guidelines which essentially framed how the community members were to respond in the discussion threads. The policies encouraged professionalism, focused them on the topic, and encouraged them to ask questions. When studied as a whole, the high number of the *Factual Responses* may have been as a result of the high number questions asked either by the moderator or other community members.

The high number of *Continuing a Discussion Thread* indicators could also suggest that this was an extension of the policy where it guided the community members on how to continue a thread by clearly identifying a topic in the subject line; however the Desire2Learn software did this automatically. The purpose of all of the communities was

a sharing of knowledge and the continuation of the discussion threads was a means to share that knowledge.

The high level of the *Conspicuous Punctuation* indicators can also be tied to the stated policy of this community. The policy supported the use of *Netspeak* by encouraging community members to use emoticons, humor, and add animation to their written responses. Although the software did not include a large number of emoticons, the community members included a large amount of *Netspeak* acronyms (Lehnert, 1998).

The policy that governed this community also framed the expectations of what community members were not supposed to do. One of the guidelines stated not to identify students by name in order to protect the rights of both the children and the other teachers that may teach them. The final portion of this community policy focused on email and discussion thread responses which should not be written in all caps. Clearly aligned with Lehnert's (1998) examples of netiquette, the policy guided what the community members should not do because a message written in all caps implied the sender was shouting at the sender of the message. Although the policy of the community encouraged the use of humor, it was not used much at all in any of the online communities.

In addition to the policy that governed the online communities discussed above, all of the communities involved in this study were also governed by the larger Telecommunications Policy of the Carroll County Public School System. This document focused on the acceptable uses and procedures for teachers to follow when using technology. This document was used system-wide and every employee was required to sign it to verify that they had read it and would abide by its terms. It also outlined the

possible consequences of non-compliance. One example of this policy which may have influenced the overall social presence of the communities is as follows:

> "Expectation of Privacy. Board employees have no legitimate expectation of privacy in email communications sent or received on school system computers or in any material obtained or sent over the Internet on school system computers. All email communications and Internet files are subject to inspection without prior notice."

This policy statement contrasts with the definition of online privacy defined by Culmam & Milberg (1999) which defined privacy as the ability of individuals to control the terms under which their personal information is acquired and used.

A second example from the Telecommunications Policy which may have influenced what community members could not do is as follows:

> "Inappropriate Material. When email communications from outside sources contain materials such as jokes, greeting cards, defamatory statements, discriminatory statements, obscenities, or pornographic images, they should be deleted as soon as possible. These items should not be circulated to other administrators or staff or persons outside the school system. Such material may be saved or forward for the purpose of conducting a disciplinary investigation. Board employees must not, at anytime, intentionally receive or distribute material on school system computers that is abusive, harassing, libelous, obscene, profane, pornographic, threatening, sexually explicit, or illegal or purports to speak for the Board."

The inclusion of statements of this type in the policy may actually have discouraged some elements of social presence. For example, few teachers would actually self-disclose personal information about themselves or others because after having signed a document acknowledging they had no expectation of privacy. Similarly, they would not say things that were intentionally off the subject or offensive because the statements may be saved and used against them in a disciplinary hearing.

Low Level Social Presence Indicators

It was also important to study the low level indicators to see what patterns emerged less frequently.

Humor

Both groups also had fewer numbers of phrases that were coded as *Humor* in the discussion threads. It was ranked thirteenth in the Discussion Thread Group and the Social Presence Group. This low level of use was also confirmed by the Social Presence Group because the majority of them (78.03%) said they did not use *Humor* and the low number of phrases they wrote confirmed it.

Although research has indicated that using humor in online communities may suggest goodwill and present no personal challenges (Garrison, Anderson, and Archer 2001), it may be easily misunderstood in a text based medium and it could isolate a community member because their humorous comments may be misinterpreted by someone. Teachers in these online communities did not use a large amount of humor in their textual responses. This may also have been as a result of the Telecommunications policy.

Phatics

Both groups also had a fewer number of phrases that were coded as *Phatics* in the discussion threads. It was ranked fourteenth in the Discussion Thread Group and the Social Presence Group. This low level of use was also confirmed by the Social Presence Group because the majority of them (68.92%) said they did not use *Phatics* and the low number of phrases they wrote confirmed it. The lack of use of *Phatics* could be explained in the same fashion as with humor. Why would teacher talk about things not related to the topic in an online environment in which such statements might be held against them?

As previously discussed, the teachers in the Social Presence Group called each other by their name and used greetings and salutations frequently—but they seldom referred to themselves or the community as a group. This lack of group reference may be attributed to the length of time the courses were in session. If they had more time to participate the group reference may have evolved. It was important to note that the group reference may have evolved after the research study was over. However, because the length of the study was only 30 days, it was not observed during that period of time. Perhaps this is again related to the system-wide telecommunications policy which inhibits some social behaviors and actually fosters more "business-like" behaviors. The policy may have persuaded participants to behave more independently and be less associated with other group or community members and may force them to act more as individuals and less as a group even though they are all in the same online community. If they referenced themselves as a group and one of them was found to have done something inappropriate, then the others may feel that they were also a part of the inappropriate

behavior as well. Further research in this area may provide additional insight into how district level telecommunications policies affect social presence in online communities.

Self disclosure

In both groups, the lack of self-disclosure was very pronounced. Although, research studies have indicated that online anonymity often encouraged self-disclosing behavior (Wallace, 1999; Fung, & Spears, 1992; Walther, 1996) the opposite was true for this group whose online identities were not anonymous—they self-disclosed very little personal information. The author of each discussion thread was visible to everyone in the community because the software would not allow anonymous postings. It was impossible to post a discussion thread without their name being attached to it. This built-in accountability further confirmed Erickson's social translucence theory (2000) where the members of the online community members were responsible for their actions and responses to others in the community.

Relationship to policy

The governing policies used in the *Elementary Science* course also mentioned two items which stated what the participants should <u>not</u> do: identify students by name, and typing messages in all caps. These specific conditions were adhered to by the community members in part because the moderators established the policies, but it was also heavily influenced by the system-wide telecommunication policy which stressed an underlying accountability for all employees.

The importance of these procedures in relation to teachers in the online communities was quite evident. The teachers who were involved in the communities

were governed by a set of policies they had no control over and which implied possible disciplinary actions for violations. This held the teachers clearly accountable for their actions and also helped to explain some of the behaviors that were observed by the community members. If there was no expectation of privacy within written communications, it was unlikely that a teacher in the smaller online community would discuss anything of a personal nature if they knew that it could be read by anyone other than the intended audience. This lack of control is in opposition to the ability of individuals to control the terms under which their personal information is used (Culnan & Milberg, 1999).

Discussion of Moderator Findings

The final research question for this study focused on the social role that the moderator played in the textual discussions. I begin this analysis with an analysis of the social presence indicators of the moderators for each course.

I wanted to study the responses of the five moderators and compare them to the responses of both the Social Presence and Discussion Thread groups to see if similar patterns existed. Specifically what social role did the moderators have in the textual responses of the community members? In addition, I wanted to observe the types of questions that they asked to see if there was a relationship between their questions and the type of the responses they would get.

Findings

Social presence does not exist in a vacuum in an online community, but is closely connected to other components of the community of inquiry model: cognitive presence

and teaching presence. Researchers have defined *Teaching Presence* as the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes (Garrison, Anderson, and Archer, 2000). Because of that relationship, it would be unwise to study the findings about social presence in this study without a discussion of the close relationship between the *Teaching Presence* of the moderators and the effect on social presence of both the Social Presence and the Discussion Thread Groups. For that reason, I examined the findings of this research using the conceptual framework of both teacher presence and social presence in order to determine what, if any relationship exists

In the online community, the teacher or moderator of the course must create social presence in order to provide a quality learning experience for the participants. The goal is a balance of social interaction that sustains the community at an optimal level.

The discussion thread questions for each course were created by the moderators and posted for the teachers to respond to on a regular basis. This aligned with the *Instructional Design and Organization* component of *Teaching Presence* (Garrison, Anderson & Archer 2002) where the set up of the curriculum and design of the course methods was handled by the moderator. When combined, this responsibility over both the content and organization of the course, allowed the moderators to guide the discourse toward higher levels of learning by posting challenging questions. Within this study, the moderators had a high level of the *Asking Questions* indicator and this corresponded to the high level of *Factual Responses* shown in both the Social Presence and the Discussion Thread Groups. The moderator asked questions and the teachers provided factual answers and opinions. It is important to note that the level or type of question

asked by the moderator dictated the type of responses that the teachers provided. For example, if a low level question was asked you might expect a low level, factual response. However, if a moderator asked a more challenging, thought-provoking question in which they wanted to know the opinions about a specific subject (curriculum guide) then they may get a response that contained a high number of *Expressing Values* phrases. An example of a more challenging question from a Moderator is as follows:

> "A question as old as time, or at least as old as the personal computer, is how to motivate people to use computers for more than administrative purposes. We want to discuss how you motivate other teachers to use their computer instructionally whether it is the one computer in the classroom or in the computer lab. How do you get those who are not involved engaged in your building?"

This type of question asked by the moderator seemed to affect the quality of the responses from the teachers in this study and may actually have discouraged some elements of social presence. The above question asked "How do you get those who are not involved engaged in your building?" This question seemed to require a more in depth, reflective answer, but may have also discouraged certain social presence indicators from being used like *Personal Advice*, *Phatics or Humor*. The question did not call for that type of response and the teachers in the community were aware of that. A representative example of a response to the above question is as follows:

> "I find it is hard to motivate those who have a strong resistance to doing something new. I have tried to emphasize that using the computer is not just another thing we HAVE to do...it is something that makes our life EASIER and learning motivating for the students! I back that up with offers to help anyone in

any way I can, along with assurances that it can be done by anyone. ("If SHE can do it, maybe I can too!") I share my enthusiasm and ideas with anyone who is interested and I think that hearing this from someone who is in the classroom carries a bit more weight than from someone who doesn't have a class of kids sitting in front of them. (Nothing personal...I just think that many teachers are wary of anyone who doesn't speak from present experience) Motivation is intangible and challenging to stimulate, whether with students OR teachers."

From this example, the moderator seemed to influence the type and quality of textual response they received by question they asked. Their support of the discourse in the community corresponded to the high number of *Factual Response* indicators in their responses. Of course, to draw the participants into the discussion threads does not always require a high level of question. Moderators also asked simpler questions such as this one:

"How have students used technology to meet your ILA benchmarks?"

One of the responses to the above question was as follows:

"We have gone and used the Trophies stuff for ILA - great reinforcement for vocabulary while they use/learn computer skills. We have ILA in the PM - we could get together and my students could help yours if you want to?!? Just let me know - via email or in person - just have to get the scheduling down."

Another indictor that had high levels was *Continuing a Discussion Thread*. The moderators had to continuously monitor, read, and comment on the discussion threads posted by the teachers. This role represented another component of Garrison, Anderson, and Archer's (2001) teaching presence model entitled facilitating discourse where the

moderator of the community encouraged contributions, acknowledged responses, and provided tips and guidelines for the community members. As a participative member of the online community, the moderator had a more demanding role because they had to establish and maintain the discussion discourse. They did this by repeatedly continuing the threads which increased the level of that social presence indicator.

Here is an example of a moderator asking questions, receiving responses, and continuing the discussion thread:

The moderator: "That's a thought. What are the important elements in establishing a scientific community? I think the rule or guidelines are pretty important in creating an environment that supports learning science, so it might fit. So what do you think the first lesson should include?"

Teacher 1 response: (in response to moderator) "Greetings, I have seen the science handbook that Montgomery County has created. Wow! What a wonderful resource."

Teacher 2 response: (in response to Teacher 1) "Great resource, you can't go wrong with that one!!!"

The moderator: (in response to Teacher 2) "I agree with you. I think if we can start with their ideas, we can build our own from here. Thanks all for your ideas. Good job."

Teacher 3 response: (in response to original moderator question) "I have noticed that in Unit 1 there are many essential questions. I was working under the idea of an essential question should be the question that leads us to the Enduring Understanding. I took the Unit 1 overview and experimented with reducing the number of enduring

understanding and essential questions. My changes are in yellow. Take a look. If I am thinking about this incorrectly, let me know. Thanks."

The moderator: (in response to Teacher 3) "I need some time to reflect. I hope others in our group will give me input. It is important for practitioners to discuss these issues. Thanks. What do the rest of you think?"

Another indicator that was at a high level in the moderator group was *Vocatives*. The moderators called the members of both the Social Presence Group and the Discussion Thread Group by name and did it frequently. This behavior also aligned with the *Facilitating Discourse* component of teaching presence where the moderators set the climate of the community and drew the participants in by prompting discussion which included called them by their name. (Garrison, Anderson, and Archer, 2001).

Conclusions

Establishing social presence may not be a one-time event, but a continuous process where community moderators can model appropriate behaviors by allowing themselves to be challenged from the students and allowing them to become a part of the learning process.

As this study showed, by encouraging and participating in the discussion process, the moderator of the community can model appropriate online behaviors and facilitate the discourse among the participants in an active fashion. The moderator can bring all the elements of a community of inquiry together in a balanced and functional relationship where the intended course outcomes and the needs of the learners are both met. In addition, this study suggested that community policies that will govern the members can encourage or discourage participation.

Gaining the trust of the community members may be a difficult task for moderators and community members who participate in online communities that are part of a public school system. Public expectation of appropriate teacher behavior is scrutinized and therefore online communities for teachers may be held to the same standards that are in place for physical classrooms. The teachers who communicated to each other in the online discussion threads not only had the pressure of responding to the various topics as required by the courses, but also were aware that their comments were going to stay visible for everyone to see and that if they said something inappropriate or offensive, it may be then used as evidence against them in a disciplinary hearing. Public school teachers may only exhibit a cautious amount of trust in an online community. Another related concept to their trust issue revolves around Erickson's (2000) research on social translucence. The teachers in the communities were highly aware of not only their own behavior, but the behaviors of others. They were required to work together with people they made not have known previously, and that may have made them more aware of what the others were saying and the "*tone*" used in their writing.

A remedy for the teachers to establish trust and increase other indicators of social presence would be to provide them with a type of cyber-café, pub, or meeting place where they can discuss things freely without fear of consequences. In an area of the community such as this, there could be an entirely different set of policies that govern the members. For example, they may want to self disclose more personal information and use more humor if they knew that their own words, stories, or jokes would not be used against them. However, in public education the system-supported online communities will most likely continue to be heavily influenced by the policies that govern the entire

school system or district. With the focus of a public school system on student achievement, social presence can be a significant factor in improving instructional effectiveness (Tu, 2002) and promoting collaborative learning (Gunawardena & Zittle, 1997), but as realized in this research study, it can also be affected by outside governing policies as well as the influence of the moderator.

The level or degree of social presence in this research seemed also to be affected by the policies that governed the online community—specifically the ones of the Carroll County Public School System. Whether the policy was created by the actual members of the community or imposed on it from outside sources, it seemed its influence on some elements of social presence was strong. Policies which inhibit or discourage a wide range of interactions between the participants must be considered when analyzing the behaviors of the community members. Although the complete elimination of these policies is unlikely, future studies may provide additional insight into how social presence is affected by them.

Chapter 6: Practice, Design and Policy Recommendations

Summary

This chapter presents the connections of social presence to larger online populations and discusses how these communities could be studied in the future as an aggregated entity as opposed to a collection of individual members. It also suggests some contributing factors that influence social presence in individuals and their feeling of connectedness to other group members.

This chapter also suggests future changes for local school boards and how they can shape policies that influence social presence in online communities. The chapter then goes on to discuss the limitations of the research and suggested recommendations for future studies. It concludes with a personal reflection from the author of this dissertation.

Implications for Online Communities

Based on the findings from this research, several factors should be present in order to achieve a sense of social presence in an online community. For the members of the online communities, one of those factors is the support of a moderator in setting the climate of the community and supporting the discourse of the discussions. The importance of this interaction has been confirmed in previous studies in which the instructors affect the quantity and the quality of what the students learn in an online course (Swan, 2002) and the equitable and democratic management of online discussions (Harasim, 1990; Levin, Kim, & Riel, 1990). The implications of this may be more far-reaching that previously considered. Moderators need to be prepared in all aspects of teaching an online course (e.g., understanding the technical requirements; implementing the curriculum; creating the social learning climate of the community). Also, a part of

their awareness of the three intersecting components of the community of inquiry model—cognitive presence, teaching presence, and social presence, the moderators need to balance these three concepts in order to provide an effective online experience for the participants. Part of this experience is the moderator's knowledge of when not to interact with the community members. They should foster and encourage communication from their students but not directly control it. This reversal of traditional teacher behavior may be difficult for new moderators to accept—teaching online is not just the transference of their face-to-face teaching skills to another virtual classroom. They need to connect to the other members of the online community and nurture the environment so the participants can feel connected to each other.

This idea of connectedness also has particular value when it comes to online learning communities and staff development opportunities for teachers. Teachers who are involved in online communities actually function as both an individuals and as a group and it is this connectedness that joins the two. When faced with specific tasks that needed to be completed such as the writing or revising of a content area curriculum, group members may have felt more connected because of their need to communicate not only with the moderator of the community—but with the other members who were working with them to create, edit, and revise the content.

The implication here is that social presence may be higher when the discussions focus as much on the content, as on the task-related activities. If the product—the curriculum's revision or addition is acceptable, then there is little discussion about it and consequently the group displays few social presence indicators around that particular

subject. They accept each other's collaborative work simply because they had already discussed it at length or they just allowed it to be included.

However, this sense of social presence may also be related to specific instances where teachers in an online community are not held individually accountable for their performance or contributions. Teachers in an online community who receive an individual grade may act more independently and avoid some of the group connectedness to focus more on their individual performance. This would seem logical because they may be concerned primarily with their own grade and not the grade of another community member. This community functions as a collection of individuals who, may work together in an obligatory fashion as required by the course assignments, but do not exhibit a strong sense of being a part of the larger group or community.

Another finding in this study is that social presence in an online community may be influenced by the policies that govern the community which can be created by the community members themselves or imposed upon from an outside source. In this study, the participants did not use humor or self disclose personal information in their textual discussions and previous research studies confirmed these findings. For example, Culnan & Milberg (1999) indicated that online community participants found that their personal comments and interests were in conflict with those of the parent company's policy. This was also a finding in this particular study and it has implications for community policies and the policies that are created by local school districts. The online behavior of the participants in one of the communities in this study was governed by their self-created guidelines. As a group or community, they created the guidelines that would abide by in their daily communications with each other. These guidelines defined the appropriate

behaviors as well as the ones that they should refrain from. Additionally, all of the communities were governed by the over-aching system wide telecommunication policy of Carroll County Public Schools. This policy, designed to protect employees and discourage inappropriate activities, also limited the levels of social presence in online communities. The ramifications of this type of policy on online communities that are a part of a public school system are far-reaching. The simple realization is that certain indicators of social presence will not be as prevalent as others because of the district policies.

School Boards and Policy Governance

Local school boards continue to advance initiatives that promote effective teacher staff development and training as on on-going strategy to improve student achievement. A part of that imitative is the development and use of online communities which provide teachers with a convenient and comprehensive method of obtaining that needed training in a flexible fashion. My work within educational technology allows me to combine research findings with practical applications such as online communities. In these online communities for professional staff development, there are several factors that our school boards should be aware of which may affect how teachers use these online resources and interact with each other. For example, school boards need to be aware of the impact of *acceptable use policies* used by their employees especially as they pertain to online learning communities. These policies are typically enforced as both a deterrent for inappropriate behavior and as protection for the employees. At this time, it is not my intention to recommend or eliminate any existing acceptable use policy, but to point out that the online textual discussions which encourage deep, reflective communication

between the participants may actually be inhibited by the policies designed to discourage certain types of communication. The policies may be created by the community themselves or an extension of a larger, more pervasive policy of the school district.

The policies used to govern the online communities in this study were simply an extension of the more pervasive *Acceptable Use Policy* that was used by the Carroll County Public School System. This aligns with other districts in the state and most likely is similar throughout school systems nationwide, so the content is consistent and its impact on online communities for teachers dramatic. It would be interesting to see what effect the absence of such an over-arching policy would have on the content of the threaded discussions and overall behavior of the online community in general. Would the teachers communicate differently to each other if they were not being held accountable for their words or actions? Would that in fact then affect of the sense of membership or connectedness in the online community? As more school systems look at the online learning as a viable option for teachers, it is important to note the many factors that influence how teachers perceive both the learning environment as well as the quality of what they are learning.

The teachers in this study appeared reserved in their online conversations. Their online behaviors may well have been governed by a set of rules which are spelled out in the Terms of Acceptable Use Policy that each one of them was required to sign as a condition of employment. As a former teacher and assistant principal, I should have been more conscious of this fact, but somehow did not believe that teachers made any intentional connection to this. I was unaware of the magnitude of what a set of policies like this can have on a larger group of teachers when they are not actively teaching in the

classroom. This transference or extension of the policy beyond the classroom is an interesting phenomena and one that could be explored in further detail by others.

Considerations for Designing Online Community Software

Social presence in online communities may look very different in the future. How online community members perceive the presence of others or feel connected to a larger group may change drastically. Today text-based communication is used, but tomorrow it may be much more common for online community members to see one another, hear what they are saying, and collaborate over shared documents. The technologies that can make this possible exist today, but not are in common use by less technical, less technology-rich environments. As the technologies become more affordable and more accessible to non-technical users, it may be possible to examine online communities as they function in more media-rich environments.

Looking ahead at the future of online communities, fiber optics offers possibilities of increasing the speed of the online content and related media. It may be possible to have online courses that are more like video-conferencing. Each online community member could see and hear the other via webcams and VoIP audio technology. Additionally, if the participants could see the other members of the community—much like the MUDs and their graphical representations, the level of interactivity and level of social presence may be higher. The technology may be able to allow us to interact not only with the other members of the online community but all of its content as well. This ability to share resources in this visual virtual world could have dramatic impact on the members of the community and their social presence. If you could see and hear the people that you were talking to in real time in the online community, the non-visual cues

that currently affect the quality of online communication are removed and the communication process becomes very much like a traditional face-to-face one.

Based upon the use patterns that were observed in this study, a number of lessons were learned concerning better software design for the future. To begin with, the simple reality that the online community software showed the names of al the participants seemed to have an impact on the participants' behavior. There was no anonymity among the community members. It would be an interesting for future research studies to allow or include the ability of anonymous postings to the discussion threads in order to see the impact on the quality and quantity of the discussion threads. How would teachers respond to each other if they did not know the name of the person who was writing something to them or if the person was referred to with a factious name? Three recommendations in the design of the software would be as follows:

The first would be to software allow participants to login or create a fictitious screen name which can still be tracked or monitored to the real person's identity This may enhance the elements of social presence by allowing some degree of anonymity but still offer the protection for the members by connecting the anonymous name to a real person. This accountability will provide some degree of security for the members, and as a part of a public school system's staff development delivery system, will be required.

Another suggestion for future software development that could be considered is the editing on the fly of online content as seen in applications such as Wikipedia. The ability for online community members to edit and revise documents in a public forum has a great deal of potential. Documents in an online community which are available for everyone to continuously edit may have an influence on the social presence of the

community as the documents would evolve from a single author or small group of authors to one that is written by the community itself. The ability of software to allow this type of textual collaboration may provide future researchers with more information on how people work together in online communities and communicate their ideas singularly and as a group.

A final suggestion for software enhancement is related to the first suggestion with some additional options. The premise of allowing fictitious or anonymous logins or screen names would still remain the same, however the new suggestion would be to allow the community members the option of choosing how they wanted to respond to a particular posting by another. With this new suggestion, they would have the option of responding to it as themselves with their identity clearly visible to everyone or choosing the opposite of that and responding completely anonymously, or finally by responding as a fictitious community member. Combined these options would allow members of the online community up to three different online personas which would allow the potential for some diversity in their responses.

Moderators

Recommendations for moderators of online communities fall into two primary areas: theoretical and operational. Knowledge in both of these domains will help moderators better understand online learners in their courses and how to best deliver the content.

Theoretical

"Moderating takes place in both a professional and a social context" (Collison, Elbaum, Haavind, and Tinker (2000, p.5). Moderators of online communities need to ask

themselves if there is any real benefit from participating in an online community and how can the sense of community (with includes social presence) be created. With these two issues addressed, they can then focus on learning how to be an effective moderator. This can be accomplished by developing an understanding of the roles that they will play. One role is that they are not the focal point of the instruction as they may have been in a traditional face-to-face course. They are the guide which interacts with the various community members and the content separately and together.

They also should understand how group process is facilitated. This would include a cursory understanding of some of the theories discussed in this study as well as modeling the appropriate and expected behavior of the community members. This would include establishing appropriate guideline or policies that would govern the behavior of the other members. It also would include the use of NetSpeak or Netiquette as a way for them to express their emotions particularly if they are moderating in a text-based only community.

Operational

Based upon the outcomes that emerged from this study, moderators need to be able to use the technology effectively. This includes uploading files, posting discussion thread topics, and having a good sense of how the various components function together. This also includes making sure the course content is available when it needs to be and that the links within documents and related resources function properly. Finally, it also means to have some type of plan for when the technology fails. It is very important for the moderators to have a *Plan B* in case of a significant problem or connectivity failure.

Limitations and Recommendations

There are several aspects of this study that would benefit from further research and study. In this section, I recommend those aspects.

Although efforts were taken to test the methodologies by having the discussion threads coded by three different people in both studies, future studies would benefit by the creation of a more standardized set of criterion for the coding. Additionally, if the participants could be more evenly divided between teaching levels and gender, future research could consider issues of gender and domain expertise. For example, how male teachers of upper level grades communicate and interact in threaded discussions may be quite different than women elementary teachers. Of course, there may be no difference in the findings if they are included, but future research must tell the story.

The recommendations for future research also include another study of online communities which includes all teaching levels. This would enhance the findings of this study which exclusively focused on elementary level teachers. By including a broad set of teachers from a variety of teaching levels, a more representative sample could be observed. Additionally, it is suggested that future studies of social presence consider alternate methods of data collection. This may include the use of classroom observations and directed interviews of the participants. Future researchers may also want to have a more visible presence to the in the community studied. By participating more as a member of the online community, future researchers may assimilate more into the actual population of the community and therefore be able to present their findings from an entirely different and new perspective. The use of directed interviews of the online community members may also provide more detailed information on the elements of

social presence by probing more deeply into the social aspects of online community participation such as how people perceive others and how the level of social presence influence their motivation to continue in the community.

Conclusion

In summary, as our physical communities become more integrated with our online communities, it will be important to understand how our world is changing and that the connections we make to others in the virtual world will be as important as the ones we make in the real one. Our lives will become a collection of relationships where we may only know some people through our online communities. These communities can be rich and diverse in quality and contain all the elements we need to flourish socially as any of our face to face communities. They can provide us companionship, answers to questions, thoughtful discussions, and a connection to vast amount of shared knowledge. The future holds tremendous promise as we strive to connect our digital world to our physical one. It is hoped that this dissertation takes a small step in understanding this future.

Appendix A

The Pilot Study

Summary

This section describes the results of the pilot study used in this study. It provides descriptions of the course used and examples of the discussion threads from both the moderators and the teachers. It also provides tables which list the phrases by each social presence category and the rank order of the frequency of the indicators. It also provides discussion on the high and low indicators found in the rank order table. It concludes with some "*lessons learned*" and provides recommendations and modifications for the subsequent main study.

Course Description

The course studied in the pilot study was called "Technology Literacy in the Elementary Classroom" and was offered by Carroll County Public Schools for graduate credit through McDaniel College. This course was designed for elementary teachers (K-5), media specialists, technology coordinators, and administrators. It provided an overview of the Maryland Technology Literacy Standards and how they could be integrated into classroom instruction. An overview of the *Microsoft Office Suite*, *Kidspiration*, and content websites from the Internet was also provided.

Discussion Thread Questions

The online community experience took the form of a moderator asking a question to the students and the students all answering the question based on their own experiences

or research. The questions were on a variety of topics but all related to promoting literacy in the elementary classroom. For example in week one:

The moderator: “Share a Kidspiration activity/document that you created this week as you explored Kidspiration. How would you use such an activity? How might visual learning software impact student learning?”

Sample response from a student: “I created an activity that goes along with the 4th grade colony unit on comparing Jamestown and Plymouth. The students are to sort and drag the facts to the correct colony. I already do this activity with a Venn diagram but thought allowing students to use the computer would be much more engaging. As an extension to the students (sic.) organizer, I thought it would be cool for them to print their work and use that to help them write a detailed paragraph. I would use this as a closure tool to my colonies unit. I feel visual learning is an important key to teaching. The students are more interested and will benefit by being actively engaged.

I don't have a computer lab at my school. I was wondering if anybody thought it was a good idea to share on the LCD projector to the whole class and have students come up to drag the facts???

~ (Teacher’s Name)”

In week three, the following interaction could be found:

The moderator: “Following this week's online chat, please post your T-Chart Observations and Reactions to this discussion forum You may either complete the T-Chart in Word and attach it to your posting OR you may use the HTML editor button to create a basic table with your observations and reactions directly within the Discussion Forum window.”

Sample response from a student: “Girls, What a great chat we had last night! I was excited to meet you all again and it seemed like we were in the same room! I am proud to be a part of such a terrific learning community. I hope we continue to share ideas after the course is over. Janelle, I expect to hear from you about how all-day K is going! Get together with (Teacher’s Name), you new media specialist. She is amazing! (Teacher’s Name)”

In addition, peer discussions were also seen as online community members responded to each others’ comments. For example in week four, a series of peer discussions among community members was as follows:

Teacher 1: “Please share the field trip idea with the am folks. maybe (sic.) I'll go back to the 'archive'. (Teacher’s Name).”

Teacher 2: “A couple of the teachers were talking about virtual field trips--and Ally (media specialist) thought about the media spec. creating a list of available web sites for support of curric. instruction to cut down on time searching for appropriate sites.”

Teacher 3: “This is interesting. I just read your very amusing chat. Wow. You guys carry on even without Zen master. I'm, impressed. The other thing I read was someone's idea for the older kids, I take it - RATS - read all the screen. Wish it was applicable to K. sounded like a fun chat! (Teacher’s Name). ”

Teacher 4: “(Teacher’s Name) -it was very enjoyable. Although I had tech problems of some kind too.....I am so anxious to use the field trips with some of my students. It was great to hear everyone's comments and how similar they were according to grades.”

Teacher 5: "(Teacher's Name), yes I'm the one who uses R.A.T.S. with my older students, but you could use it for the little guys by asking them to look for "sight words" on the webpage--so, in a sense they are R.A.T.S. but for a specific purpose."

Analysis of Discussion Threads: Discussion Thread Group

Of the 520 discussion thread phrases that were analyzed in this group, 39.77% of them were coded as *Affective Responses*—responses used to convey emotions. There were 36.10% of the phrases coded as *Interactive Responses*—responses that further the communication between community members and 24.52% were coded as *Cohesive Responses*—social communication in which the community refers to themselves as a whole. Table 13 presents a complete summary of phrases of each category and the percentage of those phrases in all of the Discussion Thread Group.

Table 13
Pilot Study: Discussion Thread Group--Phrase Analysis by Category

Category	Indicator	Number of Phrases	Percent of All Phrases
Affective	VA	90	17.31
	PU	57	10.96
	EE	36	6.92
	SD	12	2.31
	HU	10	1.92
	PA	0	0.00
Interactive	CT	77	14.81
	AP	60	11.54
	AG	32	6.15
	AQ	18	3.46
Cohesive	VO	91	17.50
	GS	29	5.58
	GR	6	1.15
	PH	1	0.19

Table 14 shows the rank order of the social presence indicators observed in the Discussion Thread Group.

Table 14
Pilot Study: Discussion Thread Group--Rank Order of Social Presence Indicators

Level	Indicator	Number of Phrases	Percent of all Phrases	Examples
High	VO	91	17.50	*"Paula, that was a great response—feel free to add more anytime."*
	VA	90	17.31	*"I believe there is value to both group and individual reflection."*
	CT	77	14.81	Software dependent.
	AP	60	11.54	*"Wow Barb, I really liked that activity for special needs children."*
	PU	57	10.96	*"Oh no!!!!!!!!!! I think I deleted my file from the locker by accident!! ☹"*
Moderate	EE	36	6.92	*"This is a very good assessment too for 3rd graders!"*
	AG	32	6.15	*"I agree that this is a great activity, and I think that more teachers would use it if they knew about it."*
	GS	29	5.58	*"Greetings everyone, here is my template."*
	AQ	18	3.46	*"How often does that type of 'trick' work with 3rd graders?"*
	SD	12	2.31	*"I can't believe that I got a ticket for doing that---I will have to be more careful next time!*
Low	HU	10	1.92	*"I never knew you were such a bad poet!!!!!!!!! ☺"*
	GR	6	1.15	*"We have got this thing in pretty good shape now!"*
	PA	1	0.19	"If I were you, *I would not tell my husband about that!!!!!"*
	PH	1	0.19	*"I think the sale at Boscov's is starting right at 6:00 AM. I can't wait"*

Analysis of Discussion Threads: Social Presence Group

The examination of the discussion threads of the *Social Presence Group* helped to provide additional data and the results of this group was compared to the *Discussion Thread Group*. The twelve participants of the Social Presence Group had a total of 377 phrases that were studied and coded. Their total of phrases accounted for 42.03% of all of the phrases found in all of the discussion threads.

Of the 377 discussion thread phrases that were analyzed in the Social Presence Group, 39.58% of them were identified as *Affective Responses*. There were 36.15% of the phrases coded as *Interactive Responses* and the remaining 23.75% were coded as Category. Table 15 presents a complete summary of phrases for each category and the percentage of those phrases in all of the Social Presence Group.

Table 15
Pilot Study: Social Presence Group--Phrase Analysis by Category

Category	Indicator	Number of Phrases	Percent of All Phrases
Affective	VA	65	17.15
	EE	43	11.35
	PU	29	7.92
	HU	7	1.85
	SD	6	1.58
	PA	0	0.00
Interactive	AQ	56	14.78
	AP	44	11.61
	CT	23	6.07
	AG	14	3.69
Cohesive	VO	64	16.89
	GS	21	5.54
	GR	5	1.32
	PH	0	0.00

Table 16 shows the rank order of the social presence indicators observed in the Social Presence Group.

Table 16
Pilot Study: Social Presence Group--Rank Order of Social Presence Indicators

Level	Indicator	Number of Phrases	Percent of all Phrases	Examples
High	VA	65	17.15	*"I think this is a poor design for this lesson."*
	VO	64	16.89	*"Amy, this is a strong start to your plan..."*
	AQ	56	14.78	"John, where is that resource guide from?"
	AP	44	11.61	*"Audrey, I really appreciated your feedback, I missed that one completely!"*
	EE	43	11.35	*"Yippee!!!! I got a great evaluation on that!!"*
Moderate	PU	30	7.92	*"Whoa, Jack!!!! That was awesome!!!!!!!!!!"*
	CT	23	6.07	*Software dependent*
	GS	21	5.54	*"Greetings to everyone!"*
	AG	14	3.69	*"I agree with Cindy, we need to refocus our plan."*
Low	HU	7	1.85	*"LOL, that was funny ☺"*
	SD	6	1.58	*"I never knew you were such a bad poet!!!!!!!! ☺"*
	GR	5	1.32	*"We had a great chat last night didn't we?"*
	PA	0	0.00	No examples
	PH	0	0.00	No examples

To further study the data in the Social Presence Group the results of the Social Presence Survey Questionnaire, were examined. The members of the Social Presence Group self-reported their use of the social presence indicators in their discussion thread responses. Table 17 shows the percentage of the group that said they used that particular social presence indicator and the actual number of phrases of that indictor they actually wrote. It also shows the overall level of the indicator compared to the rest of them.

Table 17
Pilot Study Social Presence Group

Level	Indicator	Percent of Group who said they used this indicator	Number of Phrases	Percent of all Phrases
High	AP	97.22	44	11.61
	AQ	85.80	*56*	14.78
	EE	64.58	43	11.35
	VO	63.89	64	16.89
	VA	55.56	*65*	17.15
Moderate	GS	79.17	21	5.54
	AG	70.83	14	3.69
	CT	59.52	23	6.07
	PU	52.78	30	7.92

High Level Indicator Analysis

The highest indicator that the S*ocial Presence Group* reported using was *Expressing Appreciation* (AP). This group reported that 97.22% of them used this indicator in their online discussion threads. It was followed by *Asking Questions* (AQ), *Expressing Emotions* (EE), *Vocatives* (VO), and *Expressing Values* (VA).

Low Level Indicators Analysis

There were five indicators of the *Social Presence Group* that I determined to have low levels of social presence based on the number of phrases that were coded for each one. Additionally, these indicators will be discussed separately from the other ones because of what the members of the Social Presence Group said they didn't do. Table 18

shows the percentage of the group that said they used that particular social presence indicator and the actual number of phrases of that indictor they actually wrote. It also shows the overall level of the indicator compared to the rest of them.

Table 18
Pilot Study: Social Presence Group Low Level Indicators

Level	Indicator	Percent of Group who said they did not use this indicator	Number of Phrases	Percent of all Phrases
Low	SD	92.14	6	1.58
	GR	87.50	5	1.32
	HU	81.67	7	1.85
	PH	0.00	0	0
	PA	0.00	0	0

Self disclosure

From the data in the Social Presence Questionnaire, the Social Presence Group reported that 92.14% did not self disclose personal information when they communicated to others in the online community and this corresponded to the low number of *Self Disclosure* phrases written by them. Based on the data, the majority of the Social Presence Group said they did not self disclose information and the low number of (SD) phrases they wrote confirmed it.

Group reference

From the data in the Social Presence Questionnaire, the Social Presence Group reported that 87.50% did not refer to themselves by reflexive pronouns such as ‘we’ or ‘us’ and this corresponded to the low number of Group Reference phrases written by them. Based on the data, the majority of the Social Presence Group said they didn’t refer to themselves as a group and the low number (GR) phrases they wrote confirmed it.

Humor

From the data in the Social Presence Questionnaire, the Social Presence Group reported that 81.67% did not use humor when they communicated to others in the online community and this corresponded to the low number of *Humor* phrases written by them. Based on the data, the majority of the Social Presence Group said they did not use humor and the low number of (HU) phrases they wrote confirmed that.

Phatics and personal advice

There were no phrases coded as *Phatics* or *Personal Advice.*

Lesson Learned from the Pilot Study

At the conclusion of the pilot study there were several findings that needed to be addressed, the first of which was the coding tool. Based on the analysis of the pilot discussion threads, I found that there were many phrases that did not fit into the classification schema used. These phrases were roughly described as factual responses and were usually in response to a question asked by the moderator or another community member. Consequently a new indicator was created in the interactive response category called Factual Responses (FA) and was defined as responses that did not have a value component or that expressed emotion.

It was also difficult to study the social presence in the textual responses in isolation of the context of which it was used. This necessitated the need to analyze not only the type of course or purpose of the community that the teachers belonged to, but also to study the social role of the moderator of the community. The role of the

moderator in the online community was a major component which was missing in this portion of the study and was added in the main study.

Appendix B

Demographic Background Questionnaire

Demographics Background Exit this survey >>

1. Page 1

*** 1. I am a:**

Male Female

*** 2. What is the grade level you primarily teach?**

Elementary Middle High

*** 3. How do you classify your teaching assigment at the school?**

- Full-Time
- Part-Time

*** 4. Years of experience in the classroom:**

- 2 years or less
- 3 - 5 years
- 6 - 12 years
- 15 -20 years
- 20 - 25 years
- 25 years or more

*** 5. How would you classify yourself as a technology user?**

- Beginner--needs assistance and support
- Confident on your own
- Capable of teaching others

*** 6. How often do you use technology to work in your classroom within your school?**

- NEVER
- YEARLY
- MONTHLY
- WEEKLY
- DAILY

*** 7. How often do you use technology to work with other teachers at other schools?**

- NEVER
- YEARLY
- MONTHLY
- WEEKLY
- DAILY

*** 8. How often do you collaborate with others in an electronic or online environment?**

- NEVER
- YEARLY
- MONTHLY
- WEEKLY
- DAILY

*** 9. How often have you taken or taught a graduate or professional development course using an online course delivery tool such as BlackBoard or Desire2Learn?**

- NEVER
- YEARLY
- MONTHLY
- WEEKLY
- DAILY

*** 10. How many years of experience do you have using technology with students?**

- None
- 2 years or less
- 3 - 5 years
- 6 -15 years
- 15 - 20 years
- 20 -25 years
- Greater than 25

*** 11. How do you classify your ability to design and access lessons supported with technology?**

- Beginner--needs assistance and upport
- Confident on your own
- Capable of teaching others

*** 12. Do you use a computer at home for professional work?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

Next >>

Demographics Background

Exit this survey >>

2. Page 2

*** 13. How do you rate your frequency of use of technology with students?**

- Seldom
- 2 - 4 times a year
- Monthly
- Weekly
- Daily

*** 14. How do the students at your school or location use technology?**

- Use equipment within room
- You (or someone else) schedule time in the computer lab
- Use regularly schedueled class time in the computer lab
- Use equipment in other areas such as the media center
- CANNOT--technology is rearely or conveniently available

*** 15. How do you rate the network access in your school or location?**

- No Access
- Available with effort
- Easily avaiulable
- Always available

*** 16. Does your building principal expect you to use technology in your classroom?**

- Stongly agree
- Agree
- Disagree
- Strongly disagree

*** 17. Does your Supervisor expect you to use technology in your classroom?**

- Strongly agree
- Agree
- Disagree
- Strongly disagree

*** 18. How much technical training have you have with computers within the last three years?**

- Less than 10 hours
- 10 -30 hours
- 31-50 hours
- More than 50 hours

<< Prev **Next >>**

Demographics Background Exit this survey >>

3. Page 4

Describe your personal skills in relation to the following technology tools:

*** 19. How often do you use the Internet during the school day?**

- NEVER
- YEARLY
- MONTHLY
- WEEKLY
- DAILY

*** 20. How would you rate your access to computers at your building or school?**

- Not available
- Available--but requires effort
- Easily available
- Always available

<< Prev Next >>

Demographics Background Exit this survey >>

3. Page 4

Describe your personal skills in relation to the following technology tools:

*** 19. How often do you use the Internet during the school day?**

- NEVER
- YEARLY
- MONTHLY
- WEEKLY
- DAILY

*** 20. How would you rate your access to computers at your building or school?**

- Not available
- Available--but requires effort
- Easily available
- Always available

<< Prev Next >>

Demographics Background

Exit this survey >>

4. You are finished!

Thank you for taking the time to complete this survey.

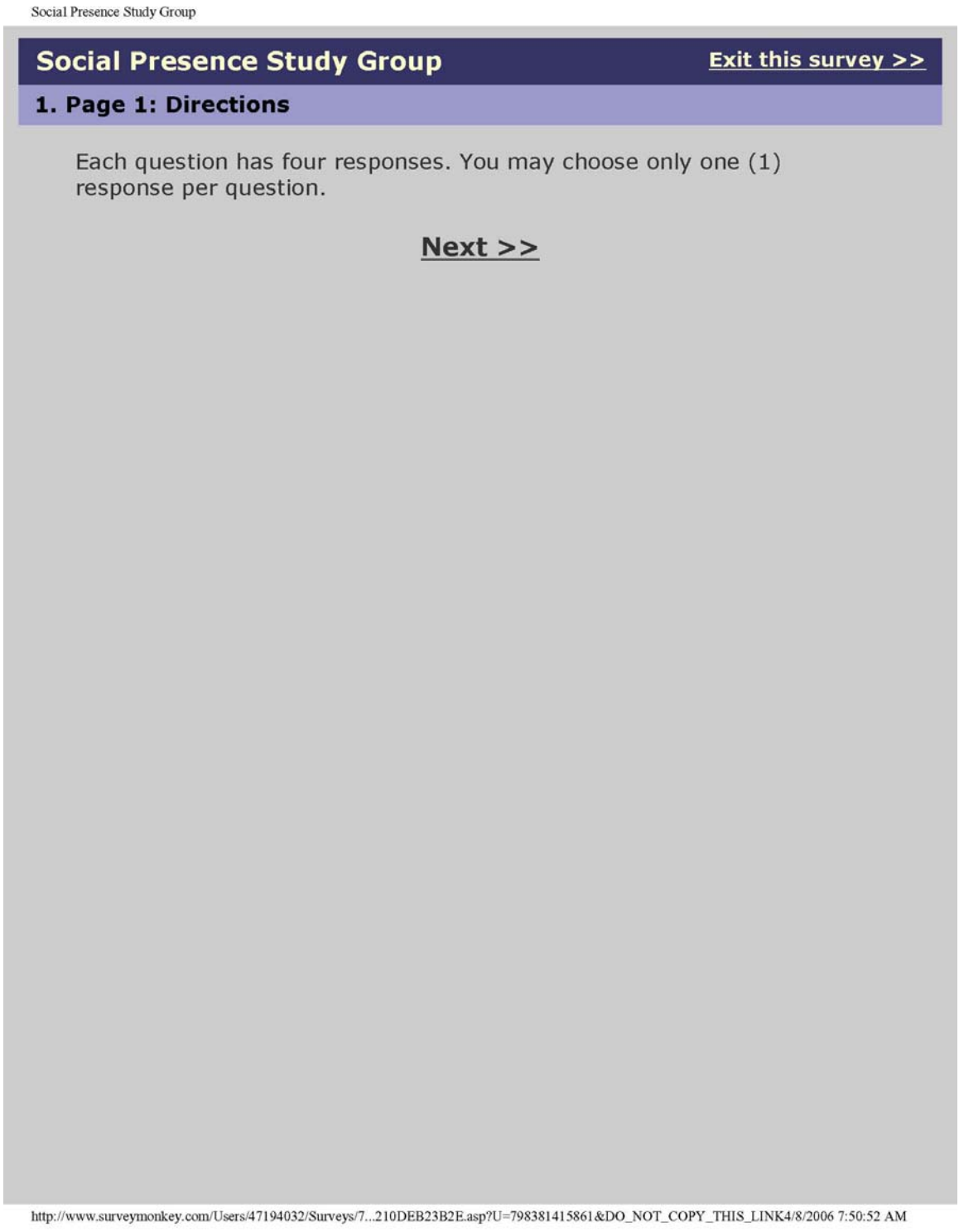
I really appreciate it.

Rob

<< Prev Done >>

Appendix C

Social Presence Questionnaire



Social Presence Study Group Exit this survey >>

2. Page 2

*** 1. Do you express your personal feelings when you are in an online environment?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 2. Do you use any special vocabulary when you are online?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

3. Do you communicate your feelings when you are online?

- NEVER
- SELDOM
- SOMETIMES
- ALWAYS

*** 4. Do you express your personal values to others when you are in an online community?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 5. Do you express your personal beliefs to others while in an online community?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 6. Do you express your personal attitudes to others while you are in an online community?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 7. Do you use emoticons when you are communicating in an online community?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 8. Do you use repetitious punctuation when you communicate to others in an online community?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 9. Do you ever use conspicuous capitalization when you communicate to others in an online community?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

<< Prev **Next >>**

Social Presence Study Group Exit this survey >>

3. Page 3

* **10. Do you ever indicate sarcasm or irony to other people when you are communicating in an online community?**
  - ALWAYS
  - SOMETIMES
  - SELDOM
  - NEVER

* **11. Do you feel that your messages to others can be misinterpreted in an online community?**
  - ALWAYS
  - SOMETIMES
  - SELDOM
  - NEVER

* **12. Do you make an effort to insure that your message to others is not misunderstood?**
  - ALWAYS
  - SOMETIMES
  - SELDOM
  - NEVER

* **13. Do you discuss your personal life with anyone while you are in an online community?**
  - ALWAYS
  - SOMETIMES
  - SELDOM
  - NEVER

*** 14. Do you provide personal information to others that is not solicited in an online community?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

15. Do you self disclose personal information to others in an online community that you wouldn't normally do in person?

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 16. Do you ever offer your personal advice to another person who is in an online community?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 17. Has anyone in the online community offered their own personal advice to you?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 18. Do you choose to "reply to" a discussion as opposed to starting a new thread in an online community?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

<< Prev Next >>

Social Presence Study Group Exit this survey >>

4. Page 4

* **19. Do you "lurk" or simply observe what others are saying in the discussion while you are online?**
  - ALWAYS
  - SOMETIMES
  - SELDOM
  - NEVER

* **20. Do other people include your responses to threaded discussions or public threads in an online community?**
  - ALWAYS
  - SOMETIMES
  - SELDOM
  - NEVER

* **21. Do you express agreement to other people's statements when you communicate in an online discussion?**
  - ALWAYS
  - SOMETIMES
  - SELDOM
  - NEVER

* **22. Do you express disagreement to other people's statements when you communicate in an online discussion?**
  - ALWAYS
  - SOMETIMES
  - SELDOM
  - NEVER

*** 23. Do others express disagreement to your statements when you communicate in an online discussion?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 24. Do you compliment others when you are communicating to them in an online discussion?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 25. Do you express appreciation when you are communicating to others in an online discussion?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 26. Do you offer encouragement to other people when you are in an online community?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

<< Prev **Next >>**

Social Presence Study Group Exit this survey >>

5. Page 5

* **27. How often do you ask anyone a question while you are in an online community?**
  - ALWAYS
  - SOMETIMES
  - SELDOM
  - NEVER

* **28. Do you ever ask the instructor of the course or moderator of the discussion a question when you communicate in an online discussion?**
  - ALWAYS
  - SOMETIMES
  - SELDOM
  - NEVER

* **29. How often do other people ask you a question when you are in an online community?**
  - ALWAYS
  - SOMETIMES
  - SELDOM
  - NEVER

* **30. How often do you answer questions from other online community members?**
  - ALWAYS
  - SOMETIMES
  - SELDOM
  - NEVER

*** 31. Do other members of the online community answer questions posed by you or others?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 32. Do you try to answer questions asked by other online community members?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 33. Do you refer to other people by their name when you are communicating with them in an online discussion?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 34. Do you ever refer to other people by a nickname or a created name when you communicate with them in an online discussion?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 35. Do you use your real name when you communicate to others in an online discussion?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 36. Do you ever begin a threaded discussion with a greeting?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 37. Do you ever end a discussion thread with a salutation?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 38. Do other people ever begin a threaded discussion with a greeting?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 39. Do you ever refer to other members of the discussion groups as "us, we", or "our group"?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 40. Do you think that your use of inclusive pronouns may have a positive effect on other members of the online learning community?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 41. Do other members of the online community ever refer to the members of the discussion grousp as "us, we", or "our group"?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 42. Do you ever use phatics (speech used to convey feeling) in communication to others while in an online community?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

<< Prev **Next >>**

Social Presence Study Group Exit this survey >>

6. The LAST Page! :)

*** 43. Do you think your use of phatics or slang helps to improve your communication with others while in an online community?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 44. Do you think your use of phatics or slang interferes with your communication with others while in an online community?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

*** 45. Do you think that your use of language that is purely social in nature to other people helps to communicate while in an online community?**

- ALWAYS
- SOMETIMES
- SELDOM
- NEVER

<< Prev Next >>

Social Presence Study Group

Exit this survey >>

7. Thank You

I really appreciate you taking the time to complete this survey.

It will provide a lot of data for future studies as well as this one.

Rob

<< Prev Done >>

Appendix D

Carroll County Public Schools Terms of Acceptable Use Policy

CARROLL COUNTY PUBLIC SCHOOLS
TELECOMMUNICATIONS ACCEPTABLE USE PROCEDURE FOR EMPLOYEES

Reference Policy: IJND - TELECOMMUNICATIONS POLICY

The Board of Education of Carroll County (the "Board") recognizes that e-mail is an efficient form of communication that may help school system administrators and staff to better perform their public duties. The use of e-mail, however, raises a number of issues concerning archival storage, privacy interests, and rights under the Maryland Public Information Act (the "PIA") and the Family Educational Rights and Privacy Act ("FERPA"). The Board also recognizes the value of Internet research as well as the risks involved with Internet use that is inappropriate for a school or workplace setting. This procedure is intended to address these issues and to provide guidance on the appropriate use of CCPS network communication facilities which provide e-mail messaging and access to the Internet.

1. Public Purpose. The Board provides computer hardware, software, Internet, and e-mail programs for the limited purpose of helping the Carroll County Public Schools' administrators and staff in the furtherance of their public duties. The use of e-mail or the Internet should be limited to this purpose. Board employees should refrain from using school system e-mail or the Internet for private purposes during business hours. Use for lobbying, commercial or illegal purposes is strictly prohibited.

2. No Expectation of Privacy. Board employees have no legitimate expectation of privacy in e-mail communications sent or received on school system computers or in any material obtained or sent over the Internet on school system computers. All e-mail communications and Internet files are subject to inspection without prior notice.

3. Public Information. E-mail communications sent or received on school system computers may be subject to public disclosure pursuant to the provisions of the PIA. Accordingly, it is essential that school administrators and staff not send information via e-mail that they would not put on school system letterhead.

4. Student Information. E-mails containing personally identifiable student information may be considered student records for purposes of FERPA. Accordingly, such e-mails should be kept to a minimum. In those limited circumstances where it becomes necessary to send an e-mail containing personally identifiable student information, it is important to make a paper copy of the e-mail and save it in the student's file.

5. Password Security. Many systems provided by the Board need to be secure. Any system accessed via an account with a user login name and password is a system that needs to be secure. Accounts are to be accessed only by the account owner. Passwords are not to be shared with anyone except for troubleshooting, initial setup or life threatening emergency situations. The account owner is responsible to keep his/her password information confidential.

6. E-mail Archives. Most e-mail communications have no archival value. Therefore, most e-mail communications should not be saved or backed-up. Accordingly, an automatic ninety (90) day delete routine will be applied on all e-mails. Any e-mail communication that must be saved should be archived as soon as possible after it is sent or received. E-mail communications not archived will be deleted after ninety (90) days.

7. Inappropriate Material. When e-mail communications from outside sources contain material such as jokes, greeting cards, defamatory statements, discriminatory statements, obscenities, or pornographic images, they should be deleted as soon as possible. These items should not be circulated to other administrators or staff or to persons outside the school system. Such material may only be saved or forwarded for the purpose of conducting a disciplinary investigation. Board employees must not, at any time, intentionally receive or distribute material on school system computers that is abusive, harassing, libelous, obscene, profane, pornographic, threatening, sexually explicit, or illegal or purports to speak for the Board.

8. Disruption of Systems. Board employees must not use or permit or enable others to use the Board's network resources to infiltrate, disrupt, or harm computer systems within or outside the Board's wide area network.

9. Disciplinary Action. Failure to abide by the terms of this Procedure may result in disciplinary action which, in the discretion of the Superintendent and the Board, may include suspension or termination of employment in appropriate cases.

10. Agreement to Procedure. As a condition precedent to using the Board's Internet and e-mail programs and resources, all employees must agree to abide by the terms and conditions of this Procedure.

Signature Date

Full Name (Please print) Job Title

Work Location Work Telephone

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