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Identity and motivation for engagement within a professional distributed community of practice

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Identity and motivation for engagement within a professional distributed community of practice

by

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Dedication

This manuscript is dedicated to my parents, Leon and Janie Steele, the best parental units in the whole wide world. I am grateful for their unwavering love, support, and humor every single day.

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The long, drawn-out, seemingly interminable journey towards earning a PhD would not have come to a satisfactory conclusion without massive amounts of assistance from many kind folks. I'd really like to offer them a reward more suited to their efforts, such as a peaceful vacation on an empty beach far far from the constant demands of stressed-out grad students. However, I'm sure they would agree that a written acknowledgement in my dissertation is just as good, so here goes.

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Identity and motivation for engagement within a professional online community of practice

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Many learning organizations are using communities of practice as a strategy for knowledge sharing among members. Ensuring those members' participation in the activities of the community remains a problem for instructional designers, particularly in the case of communities that use an electronic environment as a means of communication. Wenger (1998) suggests that developing an "identity of participation" is the basis for an individual's motivation to participate in the practices of a community. In order to better understand the interplay of identity and motivation, this study supplemented Wenger's work with self-determination theory, which focuses on how motivation is produced by an individual's personality developing and functioning in a social setting. This framework was used in a mixed-methods study of a distributed community of practice for instructors from many different universities, in order to better understand the interplay between identity, motivation, and participation in such a community. The study found that age was an identity factor that made a statistically

significant difference in motivation in this community, with participants over 60 years of age indicating that their basic needs for motivation were not being met as well as other age groups. It was also found that those who identified themselves as experts within the community did not feel motivated to share their knowledge, but instead saw their role as a passive receiver of information. Contrary to expected outcomes, community members did not report having technical concerns that hampered their motivation to participate, nor did they indicate having issues with the overseeing organization for this community. However, members did feel that the universities that employed them exerted undue control over their participation within this community, particularly in regards to demands on their time.

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Chapter 1: Introduction

Although many organizations today use communities of practice as a strategy for knowledge sharing among members, ensuring those members' participation in the activities of the community remains a problem for instructional designers, particularly in the case of communities that use an electronic environment as a means of communication. This mixed-methods study focuses on the Collaborative Group for Higher Education (CGHE Online, a pseudonym), a distributed community of practice for university instructors, in order to develop a framework for understanding the interplay between identity, motivation, and participation in such a community.

Knowledge management (KM), defined as "the process through which organizations generate value from their intellectual and knowledge-based assets" (Levinson, 2006), is a highly important issue in today's professional environments. Organizations often have large numbers of members scattered around the world; these members have information that is vital to the enterprise but that is often unavailable to fellow members or lost forever when a member leaves the organization. Capturing this knowledge is one key issue for knowledge management; imparting it to other members of an organization in a manner that insures it goes to the right person at the right time is another.

One popular strategy for knowledge management is communities of practice (CoP). Based on the work of Lave and Wenger (1991), communities of practice facilitate the interaction of a group of individuals centered on an organization, goal, or topic, using social dialogue as the primary vehicle for sharing the knowledge that is situated within that community. Communities are groups of people that share common interests, interactions, and identifications. When the members are geographically distributed,

technology-facilitated environments known as "distributed communities of practice" are often created as spaces where members can communicate and create a body of knowledge in a way that is not constrained by time or space.

While there are many benefits of the use of distributed communities of practice as a KM strategy for organizations, existing research shows that efforts to facilitate and sustain member participation in such communities have met with difficulties. Many distributed community environments are created to serve the needs of a particular community, and may be initially met with a lot of activity, but then fail to ensure the continued participation of the community members (Gongla & Rizzuto, 2004; Stuckey & Smith, 2004; Kilner, 2006). CGHE Online, the distributed community examined in this study, evinced a similar pattern of activity: after a promising beginning, the community now sees very little participation. Securing the ongoing participation of members in the practices of the community is critical to ensuring the success of the community; the question then becomes, what is it that motivates members to engage in the practices of the community?

Part of the difficulty in examining issues of participation, engagement, and motivation is that all three terms are somewhat loosely defined in the extant CoP literature, and are even sometimes used interchangeably. If researchers are to develop a strong understanding of these concepts, it's important to operate with common definitions. Wenger's work (1998) defines the three terms in the following ways: (1) engagement is being involved with or occupied by a social practice; (2) participation is "a broader concept than engagement", defined by community membership and active involvement; and (3) motivation is having the desire or willingness to engage or participate in a social practice. Using these definitions, one can be engaged in an activity but not have the depth of involvement to be a participant in the wider sense. A person is

motivated to participate in the practices of the community; in turn, that participation shapes the member's motivation in an ongoing, cyclical process.

A key issue in one's motivation to participate in a community of practice is the formation of what Wenger terms "identities of participation" for individual members (1998). Identity is also a problematic term, one which has a multitude of definitions according to one's perspective. Wenger defines identity as neither a purely individual or purely social conception of self, but rather the way that an individual and their social environments work together to create who a person is. Built on the sociohistorical theory, Wenger's conceptual model of identity focuses on coordination of perspectives from the multiple communities that one is a member of, the ways in which one can be a member of a community, and how participation in a community engenders a constant negotiation of one's identity. He focuses on the importance of competence in forming an identity within a community, and notes that feeling mutually engaged with and accountable to the enterprises of the community are dimensions of that competence. However, although Wenger's work gives us a framework for understanding identity in practice, it is not clear on many issues, including how identity is formed (Daubermann, 2004). Wenger asserts that building an identity of competence is the basis for motivation to engage or participate in communities of practice; however, he is unclear on both the underlying motivational theory for this assertion and how identity building specifically interacts with motivation to produce participation. Therefore, it is important to supplement Wenger's work with motivation theory that is in alignment with the sociocultural learning theory on which communities of practice are based.

Deci and Ryan (2000) created a theory of motivation that is geared towards understanding not only an individual's tendencies for engaging in an activity, but also how the social environment provides support for (or barriers against) those tendencies.

This body of work, called self-determination theory (SDT), focuses on three basic perceptions that individuals have concerning an activity: competence, autonomy, and relatedness. SDT posits that if a social environment helps engender high levels of competence, autonomy, and relatedness towards an activity, then an individual's motivation to participate in that activity will be high. This theory is especially important for considering professional communities of practice, because it examines motivation in relation to activities that may not be intrinsically motivating, as many work-related activities are not.

This study uses a blended conceptual framework consisting of Wenger's conceptualization of identity in a community of practice (1998) in combination with self-determination theory, in order to examine the interplay of identity and motivation in CGHE Online, a distributed professional community of practice for university faculty members. Essentially, the basic needs for motivation as described by SDT are a part of an individual's identity, and are influenced by the community in question as well as by the person's participation in other communities throughout his or her life. Both Wenger and SDT heavily emphasize the importance of competence in building an "identity of participation"; also, two of Wenger's "dimensions of competence", mutuality of engagement and accountability to an enterprise, correlate closely with SDT's concerns with relatedness. Additionally, SDT suggests that an individual's feelings of autonomy concerning an activity are required for high levels of motivation towards that activity, a focus that incorporates issues of power that Wenger's work largely excludes. Most importantly for instructional designers, SDT's emphasis on how the affordances and constraints of a social environment mitigate the meeting of the basic needs of the participants can provide insight into how to best develop distributed communities of practice environments that will engage the ongoing participation of their members.

Instructional designers do not have a lot of control over how a person's prior and ongoing experiences in other communities affect their participation in the community in question. However, particularly in the case of communities that are facilitated through an intervening technology such as electronic discussion boards, it's important for designers to understand how identity factors may influence an individual's motivation for participation, and to gain an understanding of how the environment either enhances or diminishes an individual's development of an identity of participation.

STATEMENT OF PURPOSE

Instructional designers who are seeking to develop such communities to solve knowledge management issues within organizations need a fuller understanding of identity's role in motivating participation in professional communities of practice. These designers should focus on "the design of social environments that optimize people's development, performance, and well-being" (Deci & Ryan, 2000). Like many distributed communities of practice, CGHE Online is failing to thrive and grow. Accordingly, this study seeks to explore the existing dynamics and affordances of CGHE Online through the lens of identity's interaction with motivation. The purpose of this research is not to produce a definitive version of how all such communities work, but rather to provide and test a framework for understanding how they do or do not work.

RESEARCH QUESTIONS

Blending Wenger's theory with self-determination theory indicates that the ability of community of practice to meet a person's basic needs for competence, relatedness, and autonomy, as part of their identity both within and without the community, is the force that motivates an individual to participate in the activities of that community. The questions used to guide this research, then, are: (1) how do the affordances and

constraints of this community affect members' motivation to participate, and (2) how does an individual's integrated identity affect their motivation to participate in this community?

SCOPE AND LIMITATIONS

This study is specifically concerned with how identity relates to motivation within a professional, distributed community of practice. As such, it is focused on an exploration of certain issues, to the exclusion of an in-depth perusal of others.

First, it is not meant to be an exhaustive study of identity as a construct, nor will the concept of initial identity formation as a process be covered. Due to the concentration on professional CoPs; generally the bulk of the process of initial identity formation is complete by early adulthood, which is the age that one's professional life generally starts. While using a community of practice framework within a classroom setting could no doubt be a valuable endeavor, the emphasis on "professional" also means that, such settings infer both a pre-professional membership and a more "formal" learning situation that may not be illustrative of the type of informal knowledge-sharing endeavors that are needed in professional organizations. Finally, where many studies focus on whether learning occurs within a CoP or how a particular community fulfills the requirements to be considered a CoP, this study assumes that the community in question is in fact a CoP and that learning is occurring, for reasons better outlined in Chapter 3.

DEFINITION OF TERMS
Agency

The capacity to act in a community.

Communities of Practice

A group of people sharing a central concern or passion for a particular topic (Wenger, 1998), with the main purpose of promoting learning via communication among

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members (Barab, 2003).

Distributed communities of practice

Communities that function as communities of practice but are distributed over a wide geographical area and therefore communicate primarily, though not solely, by electronic means.

Engagement

Being involved with or occupied by. Becoming engaged is both prompted by and a prompter of motivation.

Extrinsic motivation

The desire to perform an activity to attain an outcome which is separable from the activity itself (Ryan & Deci, 2000).

Identity

An individual's comprehension of him- or herself as a discrete, separate entity within a given community.

Intrinsic motivation

The desire to perform an activity "for the inherent satisfaction of the activity itself" (ibid).

Knowledge Management

"The process through which organizations generate value from their intellectual and knowledge-based assets" (Levinson, 2006).

Motivation

Having the desire or willingness to do something; a temporary and dynamic state.

Participation

"The social experience of living in the world in terms of membership in social

communities, and active involvement in social enterprises…a broader concept than engagement in practice" (Wenger, 1998).

Virtual community

A group separated by space and time that uses networked technologies to collaborate and communicate (Johnson, 2001). A virtual community is the designed community; the community of practice either emerges from the designed community, or the community was designed to support a pre-existing community of practice.

Chapter 2: Identity and Motivation - A Conceptual Framework

This chapter first discusses knowledge management and its importance in today's world. Second, an overview of "communities of practice" as a conceptual strategy for knowledge sharing within organizations is given, focusing on meaning, community, and participation as being key concepts in understanding communities of practice. Included in this overview is the concept of distributed communities of practice, which utilize technology to bind members that are geographically diverse. The overview also introduces Wenger's ideas on participation being driven by and also producing "identities of participation" in community members, along with the importance in understanding how members are motivated to participate in the practices of the community. Third, identity is examined in more depth, both as a concept with a historical body of research and as it is specified by Wenger's seminal work on communities of practice (1998). Fourth, motivation is explored, specifically self-determination theory (SDT) as a way of understanding how motivation is determined within the auspices of a social environment. Finally, Wenger's conception of identity is combined with SDT to create a blended theoretical framework with which to examine identity as motivation within distributed, professional communities of practice.

KNOWLEDGE MANAGEMENT AND ITS IMPORTANCE TO PROFESSIONAL ORGANIZATIONS

After becoming prominent in the mid-1990s, the term "knowledge management" took on a myriad of meanings but can best be defined as "the process through which organizations generate value from their intellectual and knowledge-based assets" (Levinson, 2006). One of the underlying assumptions of KM is that many of the key assets of an organization are housed in the minds of its members. The traditional view of

assets is concerned with those that are explicit, such as real estate, inventory, published documents, trademarks, patents, and market research data. However, an important concern of KM is with organizational assets that are implicit. Implicit assets are the information that individuals or groups have. This information is rarely laid out in a manual or worked up into a flow chart, but is instead generally only accessed through social contact. The need for knowledge management is a concern for all kinds of organizational structures, whether typical hierarchical businesses or corporations or more loosely-organized groups of those pursuing similar endeavors.

A recent Harris pool of knowledge workers found that 67% believed there were people within their organization that could help them do their job better, but 39% said they did not know how to find these people (Gilmour, 2003). Sixty percent bemoaned work that was duplicated because they were unaware that someone else within the organization was doing the same thing, and 54% felt that opportunities for innovation were missed because the right people weren't working together. The quest in developing knowledge management strategies is finding ways to leverage the collective knowledge of the individuals within an organization in order to foster collaboration, innovation, and improved efficiency.

One of the key benefits of knowledge management strategies is the facilitation of collaboration between entities that would ordinarily have no contact. For instance, the implementation of knowledge management strategies at 3M created interaction between the group in charge of sandpaper and the group in charge of adhesives, leading to the invention of masking tape (Eisenhart, 2000). Steve Denning, World Bank's knowledge management program director, cites a case where a team in Pakistan was considering a new road repair technology needed to fix that country's decaying highway system. Prior to the implementation of the company's KM system, the evaluation process for the

technology would have probably taken at least nine months, if there were no delays by the research teams. However,

> "In this case, the team posted a message to an electronic bulletin board devoted to the bank's knowledge community of highway engineers, one of more than 100 knowledge communities operating inside the bank. Within 48 hours, responses started coming in. A team in Jordan was already experimenting with the technology. Someone in Argentina had used it and was writing a book about it. And a New Zealand team had begun to draw up a set of guidelines on when the technology should and should not be used. Given this input, the Pakistani project was approved within a few weeks of the team's original query" (Stevens, 2000).

Given these types of success stories, the business world in general has become aware that the need for knowledge management, both within and across organizations, is "the key competitive issue" facing the corporate world (KM Helps, 2002). A 2005 survey found that 67 percent of companies listed knowledge management as being key to achieving their strategic goals (Companies Turn, 2005). According to Phillip Watts, the chairman of Royal Dutch Shell, "our future depends on our ability to harness the diverse talents, experience and creativity of Shell people" (KM Helps, 2002).

While concern with knowledge management strategies seems most evidently urgent in the corporate world, there is a similar underlying need in any environment in which the implicit knowledge of a given group of individuals needs to be harnessed in order to educate the whole of the organization. A strategy for knowledge management needs to address the sticky issue of how learning can occur informally in a professional environment, one that doesn't have the somewhat artificial barriers between "student" and "teacher", "classroom activity" and "real life application." One of the most

commonly applied knowledge management strategies in business and educational circles today is the idea of communities of practice.

COMMUNITIES OF PRACTICE: A STRATEGY FOR KNOWLEDGE MANAGEMENT

Definition and Purpose

Generally speaking, a community of practice can be defined as a group of people sharing a central concern or passion for a particular topic (Wenger, 1998), with the main purpose of promoting learning via communication among members (Barab & Scheckler, 2003). Professional activities aren't the only focus of activity for communities of practice; such communities can be founded on solving personal issues, such as Alcoholics Anonymous, or can revolve around fun hobbies, such as the World of Warcraft gaming community. These communities can be formal or informal, and are all around us in our everyday life. However, the focus of this investigation, as with much of Wenger's work, is on profession-related communities of practice. Wick (2000) more narrowly defines a community of practice as a group of professionals with similar task responsibilities, who promote learning through member communication. This type of CoP affords members the opportunity to share professional practices and tools.

Historical Background

The concept of "communities of practice" was first promoted by Jean Lave and Etienne Wenger as a conceptual model of situated cognition, in which learning occurs at the time and place that real tasks are performed. Lave originated the term "situated cognition" to describe this new view of learning, one where cognition is "stretched across mind, body, activity and setting" (Lave, 1988). Lave's work is based on the larger body of sociohistorical learning theory, exemplified by the work of Dewey and Vygotsky (Bielaczyc & Collins, 1999). This view represents a significant shift away from

behaviorist and cognitive learning theory, in that the focus is on knowledge construction activities which occur socially in a community of learners, rather than solely within the mind of the individual. This concept of social learning was notably explored by Bandura (1977), who felt that learning occurs by the learner observing and modeling the behavior of others in his or her social environment. In the late nineties, Wenger began to specifically focus on organizational development in the professional world; since then, the CoP concept has spread steadily as a knowledge management strategy for professional organizations, assisted by the formation of virtual communities on the Internet (Johnson, 2001).

Distributed and Virtual Communities of Practice

Many communities of practice today use online interactive technologies to collaborate and communicate, such as electronic discussion boards, Wikis, ListServs, multiplayer game environments, MUDs, and MOOs (Ardichvii, Page, & Wentling, 2003; Johnson, 2001; Hildreth & Kimble, 2000; Liedka, 1999). U.S. companies spend $4.5 billion annually on software and technology to facilitate knowledge sharing among their employees (Desouza & Evaristo, 2003), making the technology factor a crucial issue for instructional designers to address. Unfortunately, there is a lack of agreement as to the appropriate term for these types of online communities, possibly because there are so many different organizational and technological permutations of them. Preece (2000) uses the term "online community" to denote people interacting socially with a shared purpose, having policies (both tacit and explicit) in place, mediated by some sort of computer systems. Hildreth and Kimble (2000) define the term "distributed community of practice" as referring to groups that function as communities of practice but are distributed over a wide geographical area and therefore communicate primarily, though not solely, by electronic means. The term "virtual community of practice" (Hildreth &

Kimble, 2000; Lueg, 2000) is generally used when referring to groups where there is no actual manifestation of the community outside of the online environment, such as UseNet groups and MUDs. These distinctions seem small, but are important when researchers and instructional designers are seeking a common understanding of the features and functions of such communities. Since the community that is the focus of this dissertation can be defined as a distributed community of practice (for reasons better outlined in Chapter 3), that term will be used when discussing communities that specifically use electronic means of communication.

Benefits of the "Communities Of Practice" Strategy of Knowledge Management For Professional Organizations

A community of practice, according to Wenger, is in the best position to codify both the implicit and explicit knowledge that professional organizations need to harness in order to advance both organizational goals and the learning of individual members. The collective knowledge generated by all of the members of the community is the community's chief product. However, accumulated knowledge in and of itself has limited long-term value because it becomes obsolete so quickly (Wick, 2000). Members' ability to easily access existing knowledge to generate new knowledge and innovations is really the key promise of communities of practice for organizational learning. Distributed communities of practice offer the same benefits, with the additional ability to connect members that would never be able to communicate without the intervening technological methods.

Lesser and Storck (2001) found that four areas of organizational performance were positively affected by the activities of communities of practice: the learning curve of new employees was decreased, the organization was able to more rapidly respond to customer needs and inquiries, rework and "reinventing the wheel" was reduced, and new

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ideas for products and services were generated. For the new employees, communities assisted the formation of relationships with established practitioners and gave them a wide perspective on what their role was within the organization as a whole. They were also able to take advantage of shared narratives which contained knowledge that would otherwise have remained tacit. For customer needs, the community provided a way to quickly locate subject-matter experts. Rework was reduced by providing a common work space and access to experts. New ideas were spawned when workers were able to share perspectives, bring in new points of view, and feel that they had a "safe environment" for innovation.

Key Concepts for Understanding Communities of Practice

Wenger (1998) delineated a number of concepts as being crucial in understanding the complexities of how a community of practice functions as a learning environment. These concepts are meaning, community, practice, participation, and identity.

Meaning –the Distributed Nature of Knowledge

The proliferation of interest in and research on communities of practice has led to an endless, heated debate over how to define "knowledge" (Hildreth & Kimble, 2000; Wenger, 2004). Wenger defines knowledge within the confines of communities of practice as "what our human communities have accumulated over time to understand the world and act effectively on it" (ibid). In this view, knowledge cannot be separated from the environment in which it is used; it is "fundamentally situated in practice" (Barab & Duffy, 2000). Knowledge is seen not as a finite thing contained in the memory of the individual, but as being distributed in the world, among people and their environments (Greeno, Collins, & Resnick, 1996). This kind of distributed cognition is a key focus of socioconstructivsm and communities of practice. An individual within the community

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may have a certain piece of knowledge, but the activities and interactions of the group may generate a greater understanding than just the sum of all the members' knowledge (Gherardi & Nicolini, 2000). Members can pool their individual knowledge together with the knowledge contained within community artifacts, in ways that can produce creative solutions to difficult problems. The collective knowledge generated by multiple members becomes the community's chief product, in that any advancement in individual understanding advances the collective understanding of the community as well (Brown & Campione, 1996). Knowledge creation is defined through narratives, collaboration, and the development of a common understanding within the community (Brown & Duguid, 1991).

Community – A Vehicle for Learning Through Observation of Experts

The community is the social setting in which learning is situated (Lave & Wenger, 1991; Wenger, 1998; Wenger & Snyder, 2002). It is not just a group of people in geographical proximity, but rather a collection of individuals who are bound together by a common set of practices, understandings, and artifacts (Wenger, 1998). Paloff and Pratt (1999) note that for a virtual or distributed community of practice to function as such, the purpose for engaging in such a community must be clearly defined and made explicit to the membership. Rather than being structured in a top-down manner, communities of practice are often self-managed and self-owned.

There are many different types of communities that fall under the communities of practice construct. K-12 and university classrooms are often the subject of community of practice research (Ardell, 2007; Groome, 2007; Keane, 2007). Wenger (1998) described a community of claims processors, which was a community centered on a specific job role. Many studies of communities of practice have been based on job role-related communities; these include medical professionals (Foulds, 2005; Parboosingh, 2002), and

teachers (Hodkinson & Hodkinson, 2003; Little, 2002; Richardson, 1998; Schlager, Fusco, & Schank, 2002). Like the community that is the subject of this dissertation, there have been several recent studies on communities of practice that focus on university faculty (Barrington, 2006; Johnson, 2006; Shere, Shea, & Kristensen, 2003; Voight, 2007; Wolff, 2006). Organizations that use communities of practice as a knowledge management strategy sometimes base their groups on job roles and sometimes on bodies of knowledge that a person is associated with; this wide disparity of purpose is echoed in the disparity of what organizations call their communities. Gongla and Rizzuto (2001) noted that Hewlett-Packard called theirs "learning communities", Xerox "family groups", World Bank "thematic groups," British Petroleum "peer groups," and IBM "knowledge networks." IBM focused their communities on what they called "core competencies", communities that were institutionalized by IBM but informal in nature. Other studies have examined communities that are formed around a specific activity, such as action research (Bruce & Easley, 2000) or a certain kind of certification (Burroughs, Schartz, & Hendricks-Lee, 2000). Not all, or even a majority, of the communities cited are virtual or distributed. Hildreth & Kimble (2000) have noted that whether a CoP can exist as a virtual or distributed community or not depends on the idea at its center; if sharing resources is the primary reason for its existence, then an online work space might make it feasible, but if meeting face-to-face is essential to complete crucial activities is the main purpose then obviously a virtual community is not an option.

Practice – What the Community Does

If knowledge is the product of a CoP and a community is the world in which that knowledge is situated, then practice consists of the work and the tools that the community uses to generate knowledge. Lave (1988) noted that practice is "activity in, with, and

arising from the socially and culturally constructed world." Practice includes not just the activities of the community, but also what the community values, how individuals relate to one another, and the social structures that allow the activities to take place.

Participation

Participation is not simply engaging in the practices of the community, but also includes broader concepts such as building membership within the community (Wenger, 1998). The view of learning within communities of practice is informed by the historical concept of apprenticeship, where a novice was placed under the tutelage of an expert. Rather than practicing new skills in an environment that was separate from the "real world" application of those skills, novices were taught to observe and do genuine tasks in their natural setting, with the guidance of someone who used those skills to go about their daily work.

Accordingly, in a community of practice, novices need to have opportunities to observe and have contact with experts, moving towards more central participation in the community as their competence in the activities increases. Lave and Wenger (1991) termed the learner's access to practices and genuine participation in the group as legitimate peripheral participation (LPP). Peripherality is not actual physical distance, but rather the degree to which the member is involved in activities that are central to the purpose of the community (Hildreth & Kimble, 2000). New members of a community ("novices") can actively contribute and sometimes change the practices of the community; as they are more engaged in the community and develop a greater understanding of its practice, they become more central members of it. In order to have a healthy community of practice environment, different levels of participation should be invited, allowing members on the periphery to gradually become more central; in this way, all members of the community can be valued.

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In distributed communities of practice, "lurking" is a behavior that is generally considered legitimate peripheral participation (Preece, 2000). An example of lurking is a community member who may read items posted on an electronic message forum, but does not "post", or contribute, to the online conversation. Preece found that the percentage of members who are lurking varies from community from community, with an average of 55%. Health-related sites, for example, averaged 45%, while technology support sites averaged closer to 82%; this is probably due to the fact that many users on health-related sites come to the sites specifically for interaction and support with their health issues, while users of tech support sites are often only looking for the answer to a specific problem that can usually be found through lurking. Although some might argue that only actually contributing to the body of knowledge in the community is a form of participation, Preece (ibid) was surprised to find that lurkers often feel like they are a part of the community that they are lurking in; their reasons for lurking mostly involved fears of negative reactions to their posts, or a "wait and see" attitude that the lurker felt would eventually lead to posting. Lurkers are clearly on the periphery of the community and are not making any central contributions, but often feel that they are learning just from observing the online conversations of others.

Identity

According to Wenger (2000), one of the main outcomes of engaging in the activities of a community of practice is the building of an "identity of participation." As an individual interacts with the practices of the community, he or she is building a sense of self within those practices; any encounter leads a member to a greater or lesser feeling on commonality with the community. However, to become a "participant" rather than someone who is merely a peripheral actor, individuals must identify with the group and believe they have a role to play in its activities. The concept of identity in practice will be

discussed in much more depth further on in this chapter; now that it is introduced, its importance to the concept of communities of practice must be discussed.

Participation and Motivation

Instructional designers charged with facilitating communities of practice are often stymied by an inability to engage members in the knowledge sharing process. According to Wenger (1998), the health of a community of practice "depends primarily on the voluntary engagement of its members"; the word voluntary in this sentence implies the need for members to be motivated in order to engage. Motivation can be defined as having the desire or willingness to do something. Online spaces for professional communities of practice are becoming more prevalent, but often fail to thrive (Gongla & Rizzuto, 2004; Kilner, 2006; Stuckey & Smith, 2004). Research efforts involving communities of practice focus on designing and implementing the communities, but not on sustaining them (Kilner, 2006). Obtaining the voluntary engagement, both initial and ongoing, from target members is crucial to the success of online professional communities of practice, and therefore is a critical issue for instructional designers seeking to employ CoPs as a strategy for knowledge management. Although there is some research on the subject of motivation in communities of practice, it is generally approached from a practical perspective ("people don't participate because they don't have time", "people don't understand how to use the technology"), rather than one which frames those practicalities within the underlying theoretical assumptions about motivation in CoPs.

The Role of Identity In Motivating Participation

From the sociohistorical perspective, a learner's desire to engage in the practices of the community is predicated on his or her formation of an identity as a member of the community (Billet & Sommerville, 2004; Holland, Skinner, Lachicotte Jr., & Cain, 1998;

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Kilner, 2006; Lave & Wenger, 1991). According to Lesser and Storck (2001), "a sense of identity is important because it determines how an individual directs his or her attention." For example, children learn to talk by being immersed in their home environments; they see the other members of their family talking and laughing and sharing, and they feel the need to fully participate in the practices of that particular community. Thus, becoming literate in the discursive practices of a community is a "major ground for negotiating issues of identity" (Gover & Gavelek, 2004). The child's identity, i.e. the sense of who he/she is and the larger group that he/she belongs to, is what motivates him/her to engage in speech. Motivation prompts engagement in a community of practice; engagement in turn then builds and maintains the individual's identity within the community (Greeno et al, 1996; Wells, 1999). In this way, individual identities are enhanced or diminished by their participation, increasing or reducing motivation as a result. Additionally, the individual's identity then shapes the community as a whole; in this way, CoPs and their membership are mutually constitutive.

Unfortunately, other than Wenger's 1998 work, there is little research that explores the concept of identity in communities of practice. In order to build a better understanding of how identity interacts with motivation, a more in-depth examination of identity is required.

IDENTITY

Defining Identity – A Historical Background

There has been a lot of research on issues of identity and little agreement on what it is, how it is formed, or how it affects our everyday lives. Historically, identity came out of sociology literature, and was considered to be an alternative to personality (Hagstrom & Wersch, 2004). Erik Erikson was one of the most instrumental individuals in the

attempt to understand identity, which he defined as a sense felt by individuals within themselves (Penuel & Wersch, 1995). Erikson's work was based in part on the work of Freud, who believed that a person's identity had to be validated and nurtured by that person's culture, or else neurosis or pathology would develop. Erikson believed that identity was defined by the choices individuals made in response to sociocultural, historical, and institutional actualities. He and James Marcia, who elaborated on Erikson's work, were primarily focused on initial identity formation in adolescents; they posited that the integration of various domains in an individual's life, such as religion and politics, into one coherent identity was the key to identity formation. This construction of a coherent identity from conflicting ones is also known as "identity configuration" (Schachter, 2004). While this view took into account the choices individuals made in regards to cultural influences, it did not place primacy on the way in which the community influenced those choices.

Identity From the Sociocultural Perspective

Those researching identity from the sociocultural perspective brought some important changes to this existing theory, being primarily concerned with integrating the "dynamic, irreducible tension" of Erikson's focus on individual choices with Vygotsky's work in sociocultural theory (Penuel & Wersch, 1995). This integration brought about three key shifts in emphasis for those studying identity from the sociocultural perspective: (1) identity formation is an ongoing process throughout an individual's life (Barab & Duffy, 2000); (2) the choices one makes are shaped by the same sociocultural forces that require one to choose, and (3) an individual's identity for a specific community can be at variance from his or her identity in other communities (Hagstrom & Wersch, 2004; Holland et al., 1998; McAdams, 1988; Penuel & Wersch, 1995).

According to Holland et al. (1998), this new concept of identity emerged in large part from an anthropological and cultural studies adaptation of Mead's work.

In this view, identity isn't a singular, static entity, but is continually changing throughout the course of a person's life in response to the changing social contexts in which that individual engages. These social interactions occur in contexts that influence how the interactions are carried out, and are supported by historical ways of being categorized in a culture and the ways that connections are established between individuals and those cultural categorizations (Hagstrom & Wersch, 2004). Rather than identity being conceived as purely resting within the mind of an individual, in this view the personal world is combined with the social space (Holland et al., 1998). Therefore, identity is experienced personally by the individual, but is defined publicly by the individual's interaction with the community (Gover & Gavelek, 2004).

A Model of Identity in Communities of Practice

Wenger built his conception of identity in communities of practice on the sociohistorical view of identity. This section presents a visual model of Wenger's conception, specifically focusing on the following concepts: (1) community membership, which is an individual's specific identity within a specific community; (2) the nexus of multimembership, which encompasses the multiple nature of an individual's composite identity; (3) negotiated experience, which is the processes through which identity is built and changed within a community; and (4) the "dimensions" of identity, which consist of an individuals' competence within the community as defined by the mutuality of engagement with and accountability to the enterprises of the community. It will also provide an understanding of the "gap" areas in Wenger's theory, that is, areas that don't offer a clear framework for instructional designers concerned with how identity interacts with motivation.

Community Membership

Community membership refers to how "our membership constitutes our identities, not just through reified markers of membership, but more fundamentally through the forms of competence it entails" (Wenger, 1998 p.157); in more simplistic terms, community membership IS our identity within a specific community. It is how we see ourselves, how others see us, and our perception of how others see us, formed as a result of our actions in the practices of the community. In turn, our identity shapes how we participate in the community, in true chicken-or-egg fashion.

The process of identity formation involves an individual not only assigning an identity to themselves, but also assigning identities to others; the individual's identity is based in part on a comparison to the identities they've assigned others. In this process, reflection and observation is simultaneous; we judge ourselves by our perceptions of how others judge us, in comparison to and by a typology significant to us (Penuel & Wersch, 1995). Alvesson and Wilmott (2002) categorized this process into two processes of identity construction: (1) identity regulation, which is an exterior process by which the community exerts influence on the individual's identity, and (2) identity work, which are the employee's "continuous efforts to form, repair, maintain or revise their perceptions of self." Internalizing the external regulation of the community is a part of these efforts. Hagstrom and Wersch (2004) applied an analogy in explaining this process:

> "If you walk like a duck and talk like a duck, people will think you are a duck. And when you are with those people, you will enact or conversely try to avoid your duckness, which is in either case an identity process."

Interaction with a community can form an identity of membership, as is clearly the desire that organizations have when using a communities of practice approach to knowledge management. However, interaction with a community can also lead to an identity of

nonmembership with that community, wherein the individual comes into contact with the practices of the community and rejects them (Wenger, 1998).

The Nexus of Multimembership

Figure 1.

A Snapshot of an Individual Identity

⬭ = Community membership

Family

Workplace

Nexus of Multimember-ship

Culture

Hobby

Peer group
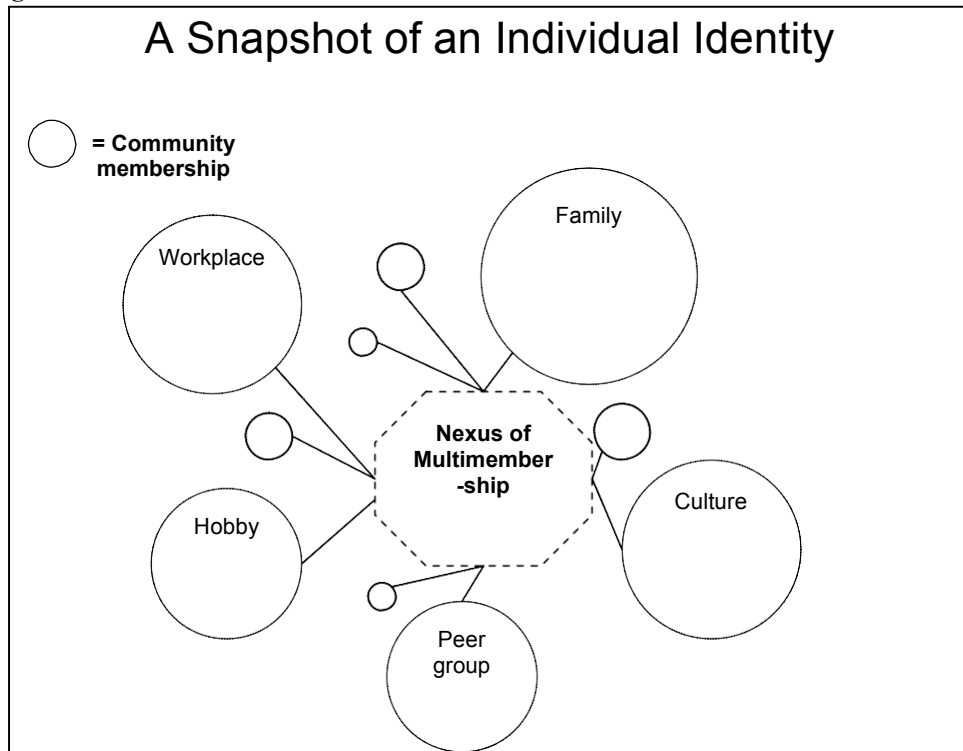
Figure 1 offers a conceptual snapshot of an individual's overall identity, encompassing membership in several communities such as workplace, family, culture, friends, or even a specific hobby such as "basketball player" or "Trekkie". Lave and Wenger (1991) saw a community of practice as developing "in relation to other tangential and overlapping communities of practice." The nexus of multimembership can be seen as the central meta-identity, the place where numerous social identities come together within an individual. A "coordination of perspectives" (Penuel & Wersch, 1995) is required by an individual, as one's identity in one community will almost certainly color identity in others. Membership in a community is only part of a person's identity as a whole, and

can't be turned on and off as the person enters different social situations. Wenger uses the example of accountants who are parents; they don't stop being parents just because they've come to work, and in fact sharing stories about their children builds part of their identity as a member of the workplace. We may do different things and behave in different ways in one community than in another; however, all of our various identities influence each other. A large part of identity formation, then, is the work of reconciliation, of having to deal with internal conflicts arising from differences in identity between communities.

Relationship of Local to Global

Wenger described the "relationship of local to global" as the relation between the specific community of practice in question and the larger community of practice in which it is situated. Take, for instance, Wenger's example of claims adjustors (1998): practitioners of claims adjustment formed a community of practice within the organization, but also were a part of global communities, such as claims adjustment as a profession across organizations. The organization that the claims adjustors work within would also be considered a global community that is a community of practice within itself. This is an example of what Brown and Duguid (1991) conceptualized as "communities within communities." In terms of identity formation, these nested communities also contribute heavily to an individual's "nexus of multimembership," and therefore to what type of identity they form within the specific community.

Identity Formation: Negotiated Experience

Figure 2.
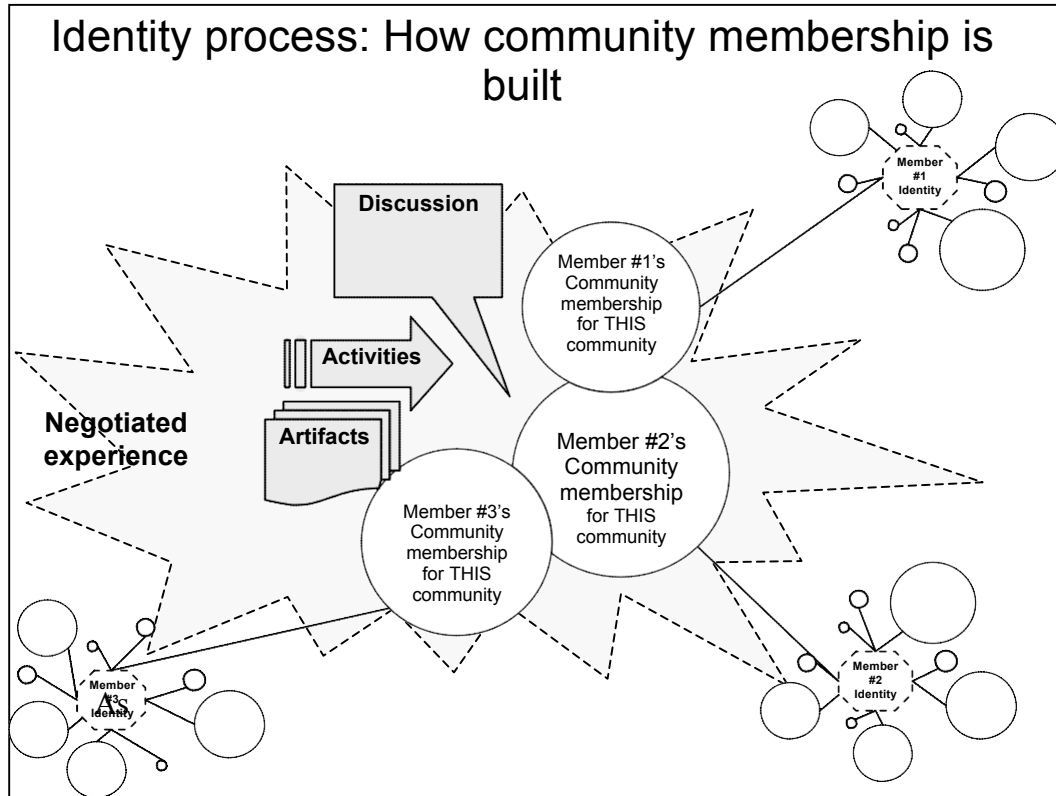
Wenger says, "identity exists…in the constant work of negotiating the self" (1998). There are two important concepts contained within that sentence. First, as previously noted, identity work is not something that is ever completed; it is constant and ongoing. The second concept, negotiating an identity, is important to understanding how identity is formed within a community of practice. The term "negotiated experience" refers to how individuals define themselves and others through participation in the practices of a community. As shown in Figure 2, the identities of individuals interact through negotiated experience involving practices of the community such as discussions, artifacts, and activities. For an individual, negotiated experience is composed of (1) learning what your community pays attention to, your way of being in this world, and

what actions and roles mean within this world, and then (2) reifying these experiences. Reification is a key concept for Wenger; he defines it as "the process of giving form to our experience by producing objects that congeal this experience into 'thingness'" (58). Any naming or creating representations of abstract ideas is reification. An online discussion board, for example, is a reification of the abstract processes of having a discussion. Learning and reification take place through engaging in discursive activities and making use of the cultural tools that form the practice of the community.

Through participation in knowledge management practices, the identity of the individual is shaped by the community, and in turn the individual shapes the community identity; this process occurs through negotiated experience. Knowledge is constructed within practical activities of groups of people as they interact with each other and their environments. The social environment includes the objects, artifacts, tools, and books available to the learner, as well as the learning community itself. A learner builds identity through becoming attuned to the constraints and affordances of this world, through participation in the material and social systems. Learning for an individual, therefore, is the strengthening of their ability to participate in the practices of the community. Lave and Wenger (1991) emphasized the importance of activity in binding individuals to communities, and of communities in validating the practices of individuals. In this view, social influence on individuals is not the result of external forces acting on the mind, but rather the result of the individual internalizing the social influence. Therefore, all individual mental processes have their origin in social interaction. Much of this idea is based on the work of Vygotsky, who believed that all human mental functioning is socioculturally, historically, and institutionally situated (Penuel & Wertsch, 1995). Vygotsky posited the idea that individuals and the society they belong to are mutually constitutive: the society shapes the learner, and the learner in turn shapes the society

(Wells, 1999). His work is responsible for the idea that a learner's knowledge of how to participate in established patterns of discourse within a social system is imperative in order for learning to occur (Penuel & Wertsch, 1995). Sociocultural learning theory rests in large part on this assumption, that participating in the discursive practices of a particular community is how individuals become an integral part of that world (Bielaczyc and Collins, 1999; Foucault, 1979 via Fox, 2000). All of these ideas informed the theoretical framework of communities of practice, in which community members learn primarily through sharing and communicating knowledge with other community members.

Discursive activities are the conversations that take place within the community, whether person-to-person, internal discussions within the individual, or the "dialogue" that takes place between a person and an artifact. The idea that our identities are formed through conversation is a key idea in sociocultural learning theory, and is based on the work of Vygotsky (Billet & Somerville, 2004; Penuel & Wersch, 1995; Sampson, 1993). We use specific language in specific contexts in order to persuade ourselves and others who we are, which is the act of identity formation (Penuel & Wersch, 1995). Our use of this language doesn't spring forth purely from within ourselves; our words are always partly someone else's, taken from our previous discourses within the community or from other communities of which we are a part. In this way, using the reifications of the community learned through discourse to participate in discourse is a large part of identifying with that community, just as rejecting the discursive patterns of a community is part of nonidentification with that community. Either way, it is an identity process.

These are important concepts to understanding the place of identity as motivation in communities of practice; members of the community, wherever they may fall on the continuum between novice and expert, are constantly negotiating their identity through

their participation in the experiences of the community. For novices, becoming experts in a community that they value is a motivating factor for engagement.

Wenger's Dimensions of Identity

Figure 3.

Wenger's model of identity in practice
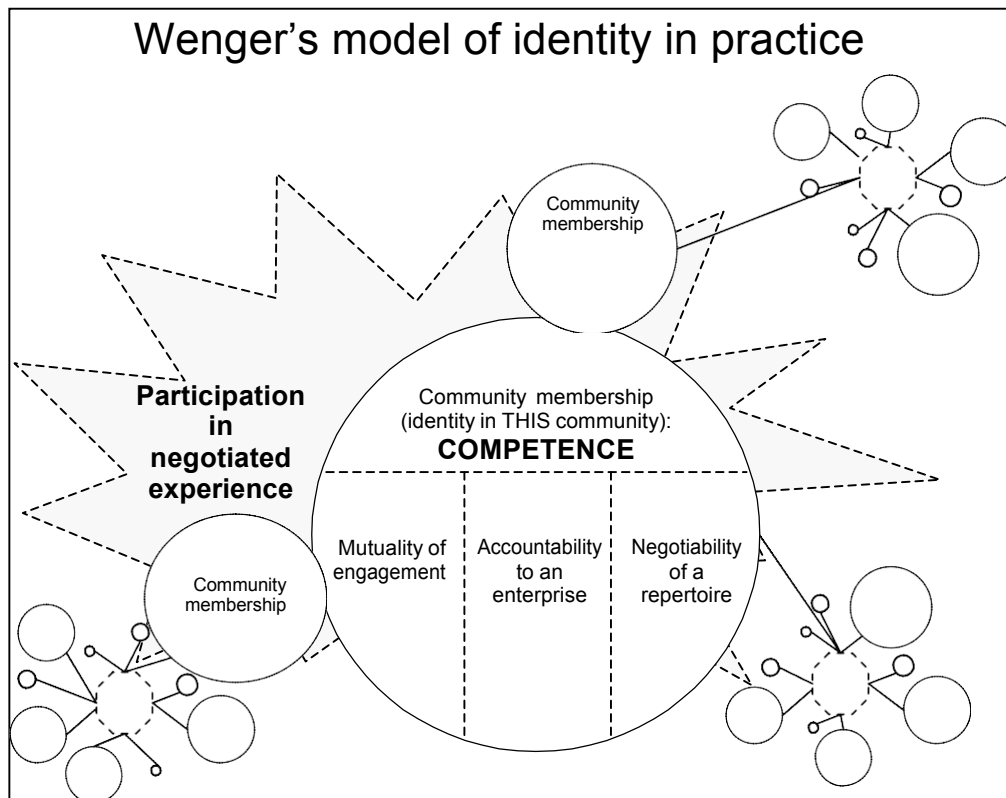
In order to understand how identity operates within a community of practice, it is important to understand the elements of that identity, or what Wenger calls the "dimensions" (Wenger, 1998). An identity of full membership within a community is dependent on "identity as a form of competence." Competence is a person's sense of their ability to participate in the activities valued by the community, which is informed by the community recognizing them as competent. A person with a lack of competence is often described as a novice, while a person with full competence would be considered an expert. These are inexact terms, of course, as there is a range of competence between

total novice and full expert. Wenger lists three dimensions of an identity of competence: mutuality of engagement, accountability to an enterprise, and negotiability of a repertoire.

Mutuality of engagement is a person's sense of their relationship to the community, of being part of a whole and having a strong sense of what that means. A person's mutual relatedness to a community forms the basis of ways of engaging in action with others, and in seeing the value of the activities in which they are engaged. Accountability to an enterprise is the ways in which our engagement in a community makes us focus on things that are particular to that world and causes us to look at the world in a certain way. Negotiability of a repertoire is how we take our experiences within a world and make use of them. Taken together, Wenger intends these three dimensions to give us an understanding of the composition of an identity of competence within a community.

Problems with Wenger's Conception

Wenger's work on identity in communities of practice was groundbreaking, but was focused more on grounding the concept of identity in practice than in clarifying the processes of identity formation within communities of practice (Daubermann, 2004). He discusses his dimensions of identity in some detail but with little specificity in regards to how a member's identity is actually formed. This lack of clarity presents a conundrum for instructional designers who seek to address identity formation in communities of practice, particularly as it relates to motivating participation. How, specifically, does identity drive the motivation of community members to become participants in the practices of a community? What are the social processes and dynamics that lead individuals to participate (nor not participate) in the activities of the group? Wenger focuses on novices being motivated to become experts, but doesn't delve into the theory behind that motivation. His focus on the novice-to-expert trajectory also ignores issues that are of

paramount importance in developing a vibrant distributed community of practice. For instance, what motivates the experts to participate in sharing the knowledge they have accumulated, in teaching the newer members of the community? In what ways can the interaction of experts and novices actually de-motivate participation? In order to better understand the relationship between identity and motivation in social environments, Wenger's work must be supplemented with motivational theory.

MOTIVATION

Deci & Ryan (2000) see people as being organismic, meaning that humans are active, growth-oriented, and naturally inclined towards having a unified sense of self and to integrate themselves within larger social structures. Motivation theories, from this view, are concerned with the perceived forces that move organismic beings to action.

Self-determination Theory

Self-determination theory (SDT) was developed by Deci and Ryan as a framework for understanding not only an individual's developmental tendencies, but also how social environments are nurturing or antagonistic towards those tendencies. In terms of motivation, SDT states that "people will tend to pursue goals, domains, and relationships that allow or support their need satisfaction" (ibid). According to Ryan and Deci (2000), "social contexts catalyze both within- and between-person differences in motivation and personal growth, resulting in people being more self-motivated, energized, and integrated in some situations, domains, and cultures than in others." SDT focuses on three basic perceptions that individuals have concerning an activity: (1) how effective they feel in regards to the activity (competence), (2) how free they feel to choose to engage in the activity (autonomy), and (3) how connected and supported they

feel in regards to the activity (relatedness). SDT defines these things as "basic needs", that is, psychological necessities that promote mental health (Gagne & Deci, 2005).

Figure 4.

Self Determination Theory's Three Basic Needs

Competence   Autonomy

Relatedness
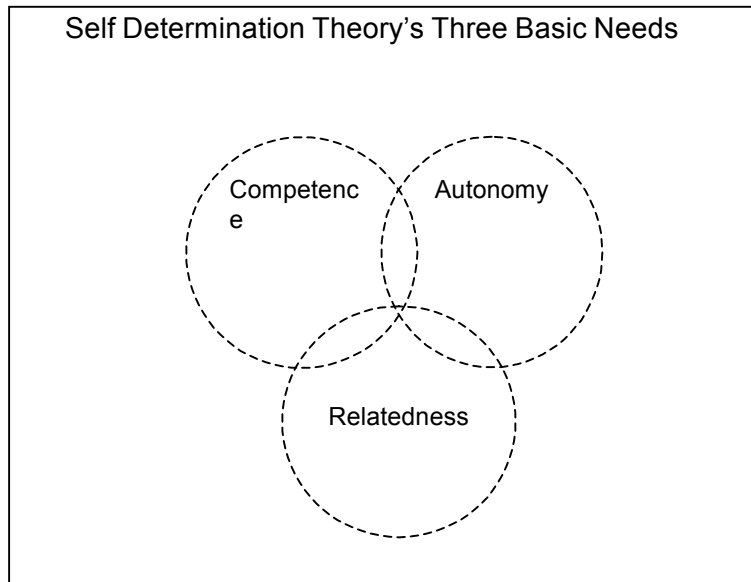
A social environment's ability to satisfy the three basic needs is a predictor of its ability to facilitate both intrinsic motivation and internalized extrinsic motivation (ibid), leading to "(1) persistence and maintained behavior change; (2) effective performance, particularly on tasks requiring creativity, cognitive flexibility, and conceptual understanding; (3) job satisfaction; (4) positive work-related attitudes, (5) organizational citizenship behaviors; and (6) psychological adjustment and well-being." Rather than focusing on how strong the needs are for the individual, SDT focuses on how these needs can be satisfied within the social environment (Deci & Ryan, 2001). Of the three basic needs, SDT focuses most heavily on autonomy. Autonomy in this framework doesn't mean the extent that an individual feels independence in doing an activity, but rather how much freedom and control he/she feels in engaging in the activity.

Intrinsic vs. Extrinsic Motivation

Traditionally, there are two categories of motivation: extrinsic and intrinsic. Extrinsic is defined as the performance of an activity in order to attain a separable outcome; intrinsic is doing an activity for the inherent satisfaction of the activity itself (Deci, Koestner, & Ryan, 1999; Gagne & Deci, 2005). For an activity to be intrinsically motivating, it must in and of itself emphasize challenge, imagination, fun, and/or novelty. SDT assumes that for intrinsic motivation, competence, autonomy, and relatedness are all high.

Sociocultural learning theory is primarily concerned with facilitating intrinsic motivation, which is prompted by activities that emphasize challenge, imagination, novelty, and exploration (Csikszetmihalyi, 1990). These types of activities require conditions that are supportive of intrinsic motivation (Deci et al., 1999): choice, acknowledgement of feelings, and opportunities for self-direction were found to enhance intrinsic motivation because they allow people a greater feeling of autonomy (Deci & Ryan, 1985). Although there is a tendency to discuss people in general as being "intrinsically motivated" or "extrinsically motivated", this perception ignores one of the key issues in Deci and Ryan's definition of the two types of motivation, which is that of activity. They point out the importance of remembering that individuals will only be intrinsically motivated for activities that are interesting in and of themselves, those that they would elect to engage in without any external incentives. In fact, if intrinsic motivation is at play, it has reliably been shown to be decreased by the application of external rewards (ibid). When extrinsic rewards are given for doing an intrinsic activity, people tend to feel controlled and their perceived locus of causality for that behavior shifts from internal to external (Deci et al., 1999).

Porter and Lawler (1968, via Gagne and Deci, 2005) believed intrinsic and extrinsic motivation were additive, producing total job satisfaction. However, Deci (1971) found that intrinsic and extrinsic motivation were interactive, but in ways that could be both positive and negative; tangible extrinsic rewards undermined intrinsic motivation, but verbal rewards enhanced it. Extrinsic rewards that did not fit this pattern were those that were independent of a specific activity (such as salary), and those that were not expected by the individual receiving them (Gagne & Deci, 2005).

Work-related Activities: Intrinsically or Extrinsically Motivated?

Gaining clarity on the differentiation between intrinsic and extrinsic motivation is important for developing a conceptual framework regarding professional activities, i.e., those that fall under the category of "work-related". When considering activity as the basis for determining if intrinsic or extrinsic motivation is at play, the importance of "work" as the underlying environment for the activity cannot be underestimated. While there are no doubt fortunate souls whose professional activities are something they would do for fun, for the vast majority of professionals the activities of work are undertaken for a separable outcome, whether it is a paycheck or a promotion or the pursuit of building a larger professional identity. To use participation in a distributed community of practice as an example, the actual activity of posting work-related items on an electronic message board, for most, is not an activity that they would pursue in and of itself. The desired outcome, whether it's contributing to a larger organizational body of knowledge or discussing ways to solve work-related issues, is generally separable from the actual activity of posting on the board. Therefore, the majority of participation in professional communities of practice is extrinsically motivated. However, research on motivation in communities of practice has produced reasons that run the gamut from "I see no value in doing this at all" to "I am contributing for the greater good of my profession", the latter

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of which clearly evidences self-directed behavior and a positive outcome in terms of motivating participation. Dismissing extrinsic motivation as "undesired" in a community of practice, without exploring the ways in which it exists and can provide a positive basis for community engagement, is short-sighted.

Extrinsic Motivation as a Focus of Self-determination Theory

The aim of SDT is not to analyze the conditions that nurture intrinsic motivation, as intrinsic motivation is considered to be "an evolved propensity" rather than something that can be grown. Instead, SDT addresses (1) the processes through which extrinsically motivated behaviors can become truly self-determined, and (2) the ways in which the social environment influences those processes. These two issues address concerns around how an individual acquires the motivation to carry out an activity, and how motivation affects their persistence, behavior, and personal well-being. Conceptions of extrinsic motivation tend to be based on the Skinner tradition of rewards and punishments, which a large body of research has shown to be undermining to autonomy (Deci & Ryan, 2001). It should be noted that SDT says that extrinsic motivation for a certain activity, no matter how self-determined, can never fully become intrinsic motivation in the presence of a separable outcome. However, rather than offering only the dichotomy of intrinsic vs. extrinsic, SDT explores the processes through which extrinsically motivated behaviors can become self-determined, and therefore closer on the motivation spectrum (and in positive outcomes) to intrinsic motivation. Motivation can range from amotivation (defined as a complete lack of motivation) to active personal commitment, depending on the degree to which the value and regulation of the requested behavior has been internalized and integrated

Extrinsic motivation can vary greatly in its relative autonomy (Ryan & Connell, 1989; Vallerand, 1997); the more that an extrinsically motivated activity permits

autonomy, the more it will produce engagement, better performance, lower dropout, higher quality learning, and better teacher ratings. Tangible rewards, deadlines (Amabile, DeJong, & Lepper, 1976) and surveillance (Lepper & Greene, 1975) all reduced subjects' feelings of autonomy. Gagne and Deci (2005) list two organizational supports for autonomy: (1) factors in the social context, such as choice and meaningful positive feedback, and (2) the organizational climate and interpersonal styles of authority figures.

Organismic Integration Theory: Classification of the Spectrum of Extrinsic Motivation under SDT

A subset of SDT, known as organismic integration theory (OIT), offers a classification of the spectrum of extrinsic motivation, differentiated by the level of autonomy experienced by the individual: (1) amotivation, where an individual doesn't value the activity and/or doesn't feel competent to do it, and the perceived locus of control is external; (2) external regulation, where the individual is motivated to participate in the activity, but that motivation is completely dependent on external forces; (3) introjected regulation, where an individual takes in a regulation but doesn't fully accept it as their own; (4) identification, where an individual recognizes and accepts the underlying value of an activity, and (5) integration, where an individual fully assimilates the regulation and brings it into congruence with his or her other values and needs (Ryan & Deci, 2000). These four classifications are not stages; an individual does not have to progress from amotivation to identification to integration. Instead, they are description classifications of an individual's motivational state for any given activity.

Amotivation is the total lack of any motivation in regards to an activity. Being amotivated means that an individual does not value an activity, does not feel competent to do it, or does not expect it to yield a desired outcome.

The other four classifications of extrinsic motivation in OIT vary in the extent to which the regulation of the activity offers autonomy to the individual. External regulation relies on an external locus of causality (such as working because your boss is watching you), and thus offers little autonomy for the individual. According to Gagne and Deci (2005), this is the type of motivation that has typically been contrasted with intrinsic motivation in early studies.

In addition to differences in autonomy, the next three types also differ in terms of internalization, meaning how much the person takes in values, attitudes, or regulatory structures (ibid). Relatedness is centrally important for internalization, in that internalization is determined by how much individuals feel the behavior is socially endorsed by those that are "significant" or related within their community, particularly since extrinsically motivated behaviors are generally not engaging in and of themselves. SDT states that if requirements for relatedness and competence are met, individuals will tend to internalize a behavior or regulation. However, it also states that satisfaction of the need for autonomy is what truly determines whether introjection, identification, or integration occurs.

Introjection can be defined as "swallowing regulations whole without digesting them" (Perls, 1973 via Deci & Ryan, 2000). In this type of extrinsic motivation, the individual takes a regulation which originates within the community and internalizes it, but doesn't integrate it with his or her existing identity. With this type of motivation, the individual will often experience internal conflict over complying with the regulation, and do it chiefly in order to avoid guilt or anxiety (Gagne & Deci, 2005). Ryan and Connell (1989) found that individuals were apt to put forth more effort with this type of motivation, but also felt higher levels of anxiety and were less able to cope with failure.

With the classification of extrinsic motivation known as identification, individuals are able to understand the underlying value of engaging in a specific activity. Deci and Ryan (2001) gave the example of people exercising because they recognize the value of exercise, even though they may not actually derive any satisfaction from the exercise itself. For identification to occur, individuals must consciously value the goal and find it important to their personal well-being. Personal autonomy is higher for identification than the previously described classifications; Gagne and Deci (2005) give the example of nurses who do unpleasant tasks, such as bathing patients. If the nurses strongly value the patients' comfort and health and understand the importance of the task, they will feel relatively autonomous while performing it.

Finally, integration is the highest level of extrinsic motivation, within the classifications of OIT. With integration, the regulation becomes assimilated with other elements of a person's identity. Gagne and Deci (2005) describe it as being "characterized not by the person being interested in the activity, but rather by the activity being instrumentally important for personal goals." Performance of the activity is completely voluntary on the part of the individual (Deci & Ryan, 2001). This type of motivation is the most like intrinsic motivation, except for the presence of an outcome of the activity that is separable from the activity itself.

TYING THE TWO TOGETHER – A BLENDED FRAMEWORK FOR IDENTITY AND MOTIVATION WITHIN A PROFESSIONAL COMMUNITY OF PRACTICE

Motivation in communities of practice stems from identity and identity processes. Using identity as a framework, Wenger's "community membership" is an individual's identity in the practice of a specific community, and is therefore the seat of motivation to participate in the activities of that community. Both Wenger and SDT emphasize competence and relatedness as being important to how aspects of an individual's identity

prompts motivation, but Wenger's work on competence and relatedness provide a richness of understanding for these two concepts within the communities of practice framework that self-determination theory is missing. Instead, SDT focuses on the additional importance of autonomy, which Wenger doesn't specifically address in regards to identity. Furthermore, since communities of practice that focus on professional organizations often revolve around activities that do not support intrinsic motivation, SDT offers an understanding of how extrinsic motivation can offer positive experiences for an individual. Together, the two theories can give a much more detailed framework from which to examine identity as motivation in a professional, distributed community of practice.

Figure 5.

Blended model of identity and motivation
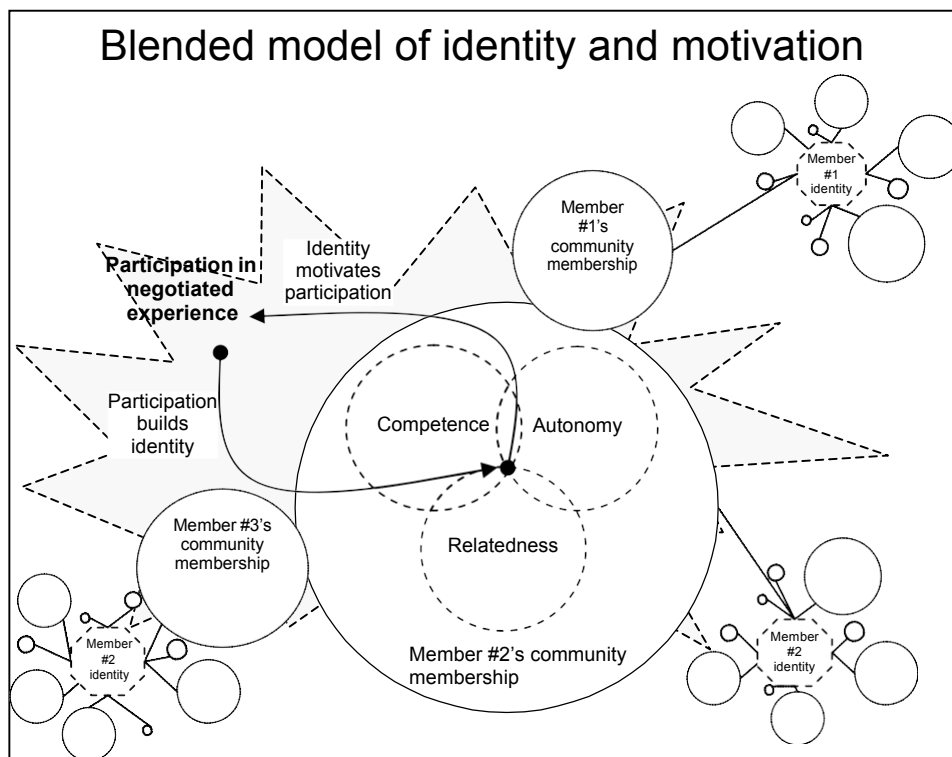
As shown in figure 5, Wenger tells us that individuals have not only an overall sense of identity, which he terms the "nexus of multimembership", but also have a

community membership, which is an individual's identity in a particular social environment. Wenger also notes that a person's identity is what prompts them to participate in negotiated experiences within a community of practice; participation then builds the person's identity within the community. These ideas provide a good understanding of how the community and the individual interact, and how an individual's overall sense of identity informs their community membership.

However, Wenger's "dimensions" of identity shed little light on the processes within a person's identity that motivate them to participate in community activities. Clearly a person's feelings of competence within the community are important to identity building, but Wenger chooses to talk about mutual engagement, accountability to an enterprise, and negotiability of a repertoire as subsets of competence. While these concepts are no doubt interrelated, competence may not be all-encompassing of the other three. This framework considers competence in and of itself to be one facet of identity, as agreed on by both Wenger and SDT. Wenger's dimension of negotiability of a repertoire seems to be very closely related to competence.

Wenger's idea of mutual engagement is concerned with how closely tied an individual feels to the community and the community to the individual. Mutual engagement, then, would seem to be synonymous with SDT's concept of relatedness, which, though it is certainly affected by competence, is not considered a subset of competence. Therefore, within this framework relatedness is a second facet of identity to examine in conjunction with motivation.

Wenger's other dimension of identity, accountability to an enterprise, is somewhat more problematic, both in understanding it and in aligning it with SDT. Accountability implies feelings of connection to the community, which would categorize this dimension with relatedness. However, accountability also implies power structures

and being liable to those structures, which brings up issues of autonomy. This last issue ties all of Wenger's dimensions together with the three basic needs with which SDT is concerned. In addition, SDT provides a much greater emphasis on autonomy, and therefore a richer understanding of its place in a person's sense of self. Therefore, for the sake of a common understanding of identity and motivational theory, this framework proposes competence, relatedness, and autonomy as the dimensions or facets of identity.

Additionally, these facets do not exist within an individual in isolation to a community of practice; Wenger's "nexus of multimembership" suggests that a person's prior and ongoing experiences in other communities of which he or she is a member inform the facets of the individual's community membership, and in return participation in the practices of a specific community affects the person's overall identity.

The depth at which these facets are "fed" by the community, then, prompts how motivated an individual is to participate in the activities of that community. The affordances and constraints of the environment, put in place by both instructional designers of the community and the members of the community, are a key factor in the "negotiated experience" that Wenger discussed. These affordance and constraints play a critical role in feeding the individual what he or she needs to build an identity within the community.

In summary, this framework proposes the following three points: (1) a person's basic needs for competence, relatedness, and autonomy are the part of their identity that motivates participation; (2) a person's "multimemberships", which is their identities derived from their participation in all of the many communities throughout their lives, have a strong bearing on these basic needs; and (3) "negotiated experience", that is, the design and activities of the community environment, is the mechanism through which these needs are met, allowing for the building of a stronger community membership.

Chapter 3: Methodology

RESEARCH QUESTIONS

Through a framework that incorporates self-determination theory with Wenger's conception of identity as the primary motivating factor in communities of practice, this researcher seeks answers to the following questions: (1) how do the affordances and constraints of this community affect members' motivation to participate, and (2) how does an individual's identity affect his or her motivation to participate in this community?

THE RESEARCH SETTING – ABOUT THE ONLINE COMMUNITY

The Collaborative Group for Higher Education (CGHE), sponsored by a large southern university, holds periodic face-to-face meetings for higher education professors in the field of reading and language arts. Most members' work institutions are separated by large geographical distances. An online space for this distributed community (CGHE Online) was designed specifically to foster a community of practice among the members of CGHE. Activities within the online community consist of an asynchronous discussion board, a document posting-and-reviewing functionality, and occasional newsletters and synchronous question-and-answer sessions. Although members were initially paid a small financial incentive to participate in the online community, the incentive was discontinued in 2006. Despite some initial participation and facilitation, CGHE Online is failing to thrive as an online community of practice. Activity in the online discussions and document posting areas on the site is minimal at this time, and facilitators for the community do not fully understand the cause. While many studies have focused on model communities of practice, few have attempted to spotlight those that have failed to thrive. Examining motivation within a failed community affords a somewhat unique, but still full, picture of identity as motivation.

GENERAL RESEARCH DESIGN

This study employs a mixed-methods design; in so doing, the researcher is displaying a pragmatic approach to this particular problem (Taskakkori & Teddlie, 2003; Thomas, 2003), rather than one that reflects adherence to a specific epistemological paradigm. This approach is informed by a growing body of literature that is resistant to the "paradigm wars" between qualitative and quantitative researchers, instead calling for the research objectives to dictate the research methods (Newman, Ridenour, Newman, & Demarco, Jr., 2003; Taskakkori & Teddlie, 2003; Thomas, 2003). In the pragmatic approach these two paradigms are not antagonistic or mutually exclusive, but instead when used in concert produce results that are complementary (Jick, 1979; Taskakkori & Teddlie, 2003; Thomas, 2003). Johnson (2003) calls this the "fundamental principle" of mixed methods research: methods should pair the complimentary strengths of one method against the non-overlapping weaknesses of the other, via triangulation of both data and methods (Denzin, 1978; Taskakkori & Teddlie, 2003). The main goal in using this type of methodology is to achieve a fuller understanding of the problem being studied than could be obtained by using one method alone. This type of approach adheres to the Gestalt principle that the whole should be greater than just the sum of the two (Thomas, 2003). In this case, quantitative research can uncover patterns across the CGHE Online community as a whole. Following up on those findings with qualitative research should then help reveal why those patterns exist.

One of the key issues when doing quantitative research is generalizability. In this case, quantitative data is not being used to make the claim that the statistical findings will generalize to other professional communities of practice, since the complex nature of the forces inside a community of practice make that claim problematic. Instead, quantitative data is used to enable generalized statements within the community: it is important, when

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seeking an understanding of how this community works, to have a broad picture of identity, motivation, and participation within the community as a whole, rather than just from selected cases. However, in order to develop a more detailed understanding of identity, motivation, and participation within this community, qualitative case data is needed as well. One cannot truly understand a person's identity without hearing his or her personal stories (Schaecter, 2004). Cresswell, Tashakkori, Jenson, and Shapley (2003) recommend the explanatory mixed methods study when a researcher wishes to explain quantitative results in more depth with qualitative data, as well as identify which participants should be studied in more depth qualitatively; both of these reasons apply in the case of this study.

The design, then, of this two-phase, explanatory mixed methods study (ibid) was to obtain statistical, quantitative results from a wide sample of members of CGHE Online, and then follow up with selected individuals to probe or explore those results in more depth (see Figure 6). In the first phase, quantitative research addressed the relationship between identity, motivation, and participation among education professors in CGHE Online. In the second phase, qualitative interviews and observations were used to better understand the results obtained in phase 1.

Figure 6.

Research Design

Quantitative data collection	Quantitative data analysis	Case selection	Qualitative data collection	Qualitative data analysis	Interpretation based on qualitative & quantitative
Consists of: • Participation statistics (provided by CGHE Online tracking system) • Competence, relatedness, and autonomy scores (Basic Psychological needs scales) • Age, gender, race, expertise level, technical expertise, institution size, presence of faculty cohort (survey attached to Basic Needs Scales)	Statistical results	Select nine representational cases varying by participation level and other factors that are statistically significant according to the quantitative data analysis	Semistructured interviews, audio recorded and transcribed. Center around issues of identity and participation for this individual, but also question the role of the CGHE Online community, i.e., facilitation, the online environment, peer interactions, etc.	Consists of: • Description of each case • Thematic coding and analysis of each case in terms of the theoretical framework described in Chapter 2 • Thematic coding and analysis across cases	(1) how do the affordances and constraints of this community affect members' motivation to participate, and (2) how does an individual's identity affect his or her motivation to participate in this community?

PHASE 1: THE QUANTITATIVE APPROACH

This portion of this study was designed to produce a quantitative picture of how well the designed community of CGHE Online is meeting the basic motivational needs of its members, as well as guide the selection of participants for the qualitative interviews that will be outlined in Phase Two.

Population

The general population for this phase was any user who had ever logged onto CGHE Online. Utilizing participation data from the CGHE Online database, 538

usernames were collected. All usernames belonging to CGHE personnel or other test accounts were then removed from this list, as were any duplicate usernames. The initial survey request was sent out to 392 email accounts, but since the community had been in existence over a relatively long period of time many of the emails associated with the usernames were no longer valid. The final tally of potential respondents with valid email addresses who had logged into CGHE Online at least one time was 246.

Instruments

This study used three instruments to collect quantitative data: participation statistics gathered through CGHE Online's database tracking system, the Basic Needs Satisfaction at Work scale, and survey questions designed to collect information concerning member identity.

Measuring Participation

Research involving quantitative measures and communities of practice is somewhat scarce. Studies in this area tend to be focused on qualitative case studies instead (Johnson, 2001; Preece, 2001). As a result, surveying existing studies on communities of practice uncovered very little on how other researchers measured participation in a community. In many of these studies, participation seemed to be assumed, and any quantitative measures instead focused on measuring the outcomes of participating. Preece (2001) does discuss measuring participation as part of how sociable a person is in a community, but only in terms of the number of messages posted per active member. However, this approach discounts the peripheral participation of lurkers, whose importance is noted by Preece (ibid).

For the purposes of this study, participation was measured by a composite number created from a member's participation statistics as gathered by the CGHE Online

database. Rather than using Preece's method of focusing only on the number of actual messages posted, these statistics included logins, documents posted, topics posted, and replies posted. Including this level of participation data was useful for the purposes of this study, since it incorporated the actions of novices and lurkers as well as experts more central to the community, rather than using Preece's more generic "posts". All activities were accorded the same weight; for instance, logging in was given the same weight as posting a comment in order to better include the activities of lurkers, who may be logging in and viewing other people's posts and responses while not actually making any contributions of their own.

Measuring Motivation

Deci and Ryan's Basic Needs Satisfaction at Work scale (1999) was designed to measure an individual's feelings of competence, autonomy, and relatedness (see Appendix B). This instrument, which utilizes a Likert-type scale, has been rigorously tested for validity (Deci & Ryan, 1995) and has been used in other studies that focus on motivation in work-related settings (Baard, Deci, & Ryan, 2004; Deci, & Ryan, 2004; Deci, Ryan, Gagné, Leone, Usunov, & Kornazheva, 2001; Ilardi, Leone, Kasser, & Ryan, 1993; Kasser, Davey, & Ryan, 1992). To support the validity of this construct, Baard et al. (2000) and Deci & Ryan (2000) all positively correlated need satisfaction with work performance ratings and psychological adjustment.

The version of this instrument used in this study has been slightly modified to specify CGHE Online as the work situation in question; the survey in its original form referred only to "work," which didn't deliver the level of specificity needed for this study. Therefore, the modification involved changing all references from "work" to "CGHE Online," so that the study participants could understand that their replies referred

specifically to CGHE Online, rather than their regular work environment. Cronbach's alpha was used as the measure of reliability for this version of the instrument.

Measuring Other Identity Factors

Survey items were designed to collect basic information regarding a person's identity: age, race, gender, years of teaching experience, level of expertise, and level of computer expertise (see Appendix B). These items were selected because the research framework suggested that there are ways in which these identity factors could be relevant in the context of this study. Of course, there are many other communities that a person could belong to throughout their life that could have a bearing on their identity and therefore on their motivation within CGHE Online, some of which are further explored in the qualitative portion of this study.

Procedure

An email was sent out to all participants who had ever logged into CGHE Online, asking them to fill out an online version of the Basic Needs Satisfaction at Work scale and the attached additional survey questions (see Appendixes A and B), conducted through SurveyMonkey. The survey was preceded by a page noting that participation in the survey was voluntary, and that no CGHE Online administrators or personnel would have access to the collected data in a way that the respondents could be identified (see Appendix D). This page also contained contact information for the researcher, and other information as required by the Institutional Review Board.

The initial email solicitation was followed up with two reminder emails by the leader of CGHE. Two additional emails requesting participation in the survey were sent out by this researcher; the final email offered a $5 Amazon.com gift certificate as incentive for completing the survey.

Participation statistics were obtained by requesting participation data for the last five years (the life of the community) from the CGHE Online technical staff. If a survey participant included their name, their survey results were joined with their participation and community data from CGHE Online.

Analysis

85 total surveys were returned via the Surveymonkey website, yielding a response rate of 24.07%. However, four of these responses were by members who had already previously filled out the survey, so those duplicate responses were eliminated. Another three results were thrown out due to the participants failing to answer more than two of the 21 Basic Needs questions. Of the 78 remaining members of CGHE Online who filled out the survey, 11 chose to do so anonymously, which means that no community information or participation statistics could be matched with those respondents.

Some of the respondents skipped a few of the survey questions. In order to prevent these "nonanswers" from artificially skewing the group averages, a substitute value for each missing value had to be applied. Two options were available. The first was to take an average of all of the other users' scores for that specific question and plug it into the empty field. However, that might have led to the subscale scores for a particular user being artificially raised; this was unacceptable since individual subscale scores were important for selecting interview subjects for the qualitative phase. Therefore, a second option was taken instead: if a user had a nonanswer, an average was taken of that particular user's subscale scores and used to fill in the blank. In this way, a better picture of an individual's scores could be ascertained.

Quantitative data analysis was performed via a statistical software package, SPSS version 16. First, to discover if there was any correlation between the three Basic Needs, a correlation analysis was conducted using Pearson's r. Second, in order to determine if

there was a relationship between participation and the three Basic Needs, linear regression was used. The dependent variable was an individual's participation total gathered from the CGHE Online database; the independent variables were the four scores (Competence, Relatedness, Autonomy, and Needs Total) from the Basic Needs Satisfaction scale. Third, in order to understand how an individual's basic needs being met in the CGHE Online community affect the various other facets of his or her identity, means via one-way analysis of variance (ANOVA) tables were used. Each of the four Basic Needs scores (Competence, Relatedness, Autonomy, and Needs Total) were used as separate independent variables against the separate dependent variables of age, race, community, gender, years of professional experience, level of professional expertise, and level of computer expertise.

Additionally, in order to form a picture of the distribution of the four Basic Needs scores, four scatter plot charts were created (see Appendix E). These charts used a Basic Need (i.e., Autonomy) as the X-axis, and total participation as the Y-axis. Each of these charts were then gridded into four separate areas: high participation/high need score, high participation/low need score, low participation/high need score, and low participation/low need score. The grid lines were created using the means from each axis. These charts were then employed in choosing participants for Phase 2, a process further described in the section below.

PHASE 2: THE QUALITATIVE APPROACH

This phase of the study, through the latitude and depth of questioning that qualitative methods can provide, was designed to further explore the results of phase 1. Any significant or indicative trends uncovered in the quantitative phase of the research were used to both inform the participant selection of the qualitative phase and guide some of the qualitative data analysis.

Participant Selection

Interview subjects were selected from CGHE Online via purposive sampling, based on the results of the quantitative analysis as well as convenience of availability. In order to gain a broad understanding of the interplay between the Basic Needs for motivation and participation in the online community, the decision was made to choose interview subjects who represented a specific section of the Needs/participation grid (see Appendix F). The goal was to select an interview subject that displayed high autonomy and high participation, a subject that displayed high autonomy but low participation, and so forth (see Table 1), for a maximum of 12 interview subjects. Although the object was to interview a wide range of subjects, several of the subjects were representative of more than one grid space (i.e., someone with high autonomy/high participation also displayed high competence/high participation). Therefore, ultimately nine subjects were interviewed.

Table 1.
Interview Subject Selection

	Participation: High	Participation: Low
Autonomy: High	Subject 1*	Subject 3*
Autonomy: Low	Subject 7	Subject 6*
Competence: High	Subject 2	Subject 3*
Competence: Low	Subject 9	Subject 5
Relatedness: High	Subject 1*	Subject 4
Relatedness: Low	Subject 8	Subject 6*

* Indicates that the subject was selected for more than one category.

A part of the subject selection criteria was the researcher's preference to meet with the interviewee face-to-face. This preference was difficult to accommodate due to the dispersed geographical nature of the participants of CGHE Online. However, CGHE held an annual face-to-face meeting of some of its members on October 16-17, 2008. Many of the survey respondents attended the meeting, and so for the sake of convenience the decision was made to select the majority of the interviewees from those survey

respondents that were at the meeting. Fortunately, the Basic Needs scores/participation data of these respondents was dispersed in such a way that they were representative of each part of the grid. Only one participant, selected because of her very high participation data in conjunction with high autonomy and relatedness scores, was not present at the CGHE October meeting, but was instead interviewed by phone.

Interview Approach

Each subject was first contacted via email, requesting the opportunity of interviewing them at the upcoming CGHE October meeting. At the meeting, the director of CGHE introduced this researcher to the entire group, and reminded everyone that the researcher was conducting interviews. The selected subjects' names were posted on a wall outside of the meeting as an additional reminder.

One interview was conducted with each participant, consisting of semi-structured interview questions based on both the conceptual framework and the results of the quantitative analysis (see Appendix C for interview questions). Eight of the interviews were held in person, in a small private room at the CGHE October meeting. These meetings were recorded, and the interviewees were informed of the recording procedure at the beginning of the interview. The interviewee who did not attend the CGHE October meeting was first contacted by email, requesting an interview by phone. After agreeing on a time, the meeting was conducted using a third-party call recording device. The interviewee was informed that the call was being recorded at the outset of the interview.

Analysis

Each interview formed the basis of a case study (Yin, 1994), along with the subject's quantitative data (i.e., Basic Needs Scale and survey scores, as well as participation data). The interviews were transcribed, and were then reviewed and

manually coded by the researcher (Miles & Huberman, 1994). A description of each individual case was created. Thematic coding and analysis for each case was developed from the conceptual framework outlined in Chapter 2, as well as any new themes that emerged from the data. Thematic coding and analysis then occurred across cases. This process was iterative; codes were developed and redeveloped depending on the ongoing process of analysis.

Chapter 4: Results

QUANTITATIVE RESULTS

Descriptive Data

Of the 78 members of CGHE Online who filled out the survey, 11 chose to do so anonymously, which means that no community information or participation statistics can be matched with those respondents. Participation values for the 67 members that could be matched with their corresponding statistics were widely varied (see Table 2).

Table 2.
Participation Means For Survey Respondents

	N	Minimum	Maximum	Mean	Std. Deviation
Logins	67	1	226	32.79	46.375
Posts	67	0	38	3.33	6.588
Responses	67	0	156	23.52	36.973
Documents	67	0	41	1.37	5.410
CGHE Participation Total	67	0	422	60.12	86.804

Scores from the Basic Needs Satisfaction questionnaire were returned for 78 survey participants (see Table 3); $Autonomy_{mean}$=39.25 (out of 49), $Competence_{mean}$=29.23 (out of 42), and $Relatedness_{mean}$=38.51 (out of 56).

Table 3.
Basic Needs Satisfaction Means For Survey Respondents

	N	Minimum	Maximum	Mean	Std. Deviation
Autonomy	78	15	49	39.25	7.231
Competence	78	6	42	29.23	6.764
Relatedness	78	14	56	38.51	8.622
Needs Total	78	38	147	106.98	19.849

Most of the 78 survey participants were above 50 years of age: 31% were 60+ and 41% were 50-59, while only 13% were 40-49, and 15% were 30-39. Over 75% of respondents were Caucasian, followed by 13% African American and 6% Hispanic. The community is also primarily female (89%).

In terms of professional experience, 49% had been performing their current jobs for over ten years; 36% had done so for 5-10 years. Only 15% of respondents could be truly considered "novices" in their field, having worked in their current profession for less than five years. Moreover, a full 82% of respondents rated themselves "highly proficient" in their professional duties; 18% chose "somewhat high," but no respondents rated themselves as "not proficient." Although computer experience is sometimes seen as being something lacking in distributed communities of practice, 48% of respondents said they felt "highly proficient" with computers, and 50% felt at least somewhat proficient. Only two participants rated themselves as not proficient.

ANALYSIS REGARDING RESEARCH QUESTIONS

(1) How Do the Affordances and Constraints of This Community Affect Members' Motivation To Participate?

The quantitative portion of this question is concerned with how an individual's levels of competence, relatedness, and autonomy are interrelated with their participation in a professional distributed community of practice. In order to answer this research question, two basic issues must be addressed. First, are an individual's levels of autonomy, relatedness, and competence interrelated? The null hypothesis is that there is no linear relationship between these three Basic Needs. However, Pearson's Correlation Coefficient indicates that there is a positive correlation ($.712$, $p < .01$) between autonomy and relatedness, a positive correlation ($.615$) between relatedness and competence, and a positive correlation ($.625$) between competence and autonomy.

The second issue regarding this research question is whether members' levels of autonomy, relatedness, and competence are related to their participation within CGHE Online. Linear regression (with relatedness, competence, and autonomy as the independent variables and participation as the dependent variable) indicates that the relationship between these factors is not significant at the .294 level (R = .237).

However, looking at the beta coefficient (Table 4) indicates an interesting trend: while relatedness is strongly positively indicative of participation and competence is somewhat positively indicative of participation, autonomy is negatively indicative. In other words, while those with high levels of relatedness and competence are more likely to participate in CGHE Online, those with high levels of autonomy are more unlikely to participate.

Table 4.
Coefficients For Autonomy, Competence, And Relatedness

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.845	57.536		-.032	.975
	Autonomy	-1.971	2.297	-.170	-.858	.394
	Competence	1.077	2.141	.086	.503	.617
	Relatedness	2.784	1.889	.283	1.474	.145

a. Dependent Variable: CGHE Total

(2) How Does an Individual's Integrated Identity Affect His or Her Motivation To Participate In This Community?

When scores from the Basic Needs for Motivation Scales were categorized by identity factors, some differences that were statistically significant emerged (see Table 5). Grouping survey respondents by age produced the significant differences in scores for autonomy, relatedness, and needs total. Two other identity factors, the CGHE community that the member belonged to and the member's level of professional experience, also

produced statistically significant differences in competency scores. However, grouping members by race, gender, years of professional experience, and computer experience showed no statistical significance in terms of the Basic Needs for Motivation. Participation totals also showed no statistical significant differences when grouped by identity factors.

Table 5.
Statistical Significance For Basic Needs For Motivation When Grouped By Identity Factors

	Autonomy	Competence	Relatedness	Needs Total	Participation
Age	.051*	.089	.034*	.025*	.910
Race	.835	.185	.379	.449	.707
Gender	.156	.485	.740	.346	.769
Years of experience	.138	.503	.363	.304	.409
Community	.928	.030*	.994	.112	.506
Experience level	.334	.031*	.186	.587	.264
Computer experience	.756	.334	.570	.642	.455

*$p < .05$

Individual questions from the Basic Psychological Needs scales also showed some statistically significant differences when grouped by identity factors (see Table 6). The scoring mechanism for these scales relates each question to one of the three Basic Needs (see Appendix A). For the purposes of the following discussion, when an identity factor is discussed in conjunction with a Basic Need, any question that showed statistically significant differences in terms of that identity factor is included in that discussion as well.

Table 6.
Statistical Significance For Identity Factors When Grouped By Questions On The Basic
Psychological Needs Scales

	Community	Age	Race	Gender	Years of experience	Experience level	Computer experience
Q1	.638	.269	.860	.030*	.692	.911	.379
Q2	.226	.022*	.369	.594	.568	.267	.283
Q3	.015*	.150	.370	.972	.124	.435	.125
Q4	.193	.418	.847	.348	.319	.029*	.281
Q5	.925	.032*	.722	.729	.502	.084	.128
Q6	.445	.104	.755	.463	.111	.288	.441
Q7	.176	.687	.402	.272	.040*	.959	.798
Q8	.812	.410	.710	.174	.429	.586	.399
Q9	.682	.923	.039*	.415	.710	.625	.469
Q10	.962	.259	.081	.291	.783	.283	.292
Q11	.999	.120	.173	.906	.223	.737	.556
Q12	.514	.356	.051*	.684	.952	.299	.703
Q13	.680	.229	.683	.106	.750	.331	.733
Q14	.331	.716	.540	.559	.518	.204	.137
Q15	.556	.333	.530	.261	.685	.047	.176
Q16	.605	.121	.408	.300	.411	.924	.335
Q17	.941	.801	.954	.881	.214	.906	.520
Q18	.166	.189	.087	.582	.107	.533	.508
Q19	.071	.004*	.331	.402	.226	.168	.265
Q20	.218	.173	.611	.073	.241	.065	.506
Q21	.854	.291	.715	.539	.381	.218	.279
Q22	.988	.120	.270	.909	.345	.979	.833

Age

Age and Autonomy

Most of the CGHE Online community is above fifty years of age; in fact, 72% of all of the survey respondents were fifty or older (Table 7). However, a comparison of mean scores for autonomy between the age groups indicated a divide between those in

the 50-59 age group and those who are sixty or older. While the first three age groups all had roughly equivalent mean scores for autonomy, the autonomy score for those 60+ was approximately 5 points lower, indicating that those sixty years of age and older felt less autonomy in conjunction with the CGHE Online community than did their peers in other age groups. With a significance value of .059 (see Table 5), the differences between the 60+ group and the rest of the respondents has a tendency towards statistical significance.

Table 7.
Age and Autonomy

Age	Mean	N	Std. Deviation
30-39	40.99	12	5.099
40-49	40.98	10	5.986
50-59	40.54	32	5.690
60+	35.94	24	9.398

Only one of the questions associated with autonomy (see Appendix E) showed statistical significance (p = .032, see Table 6) when the mean scores were grouped by age. Question Five stated, "I feel pressured to participate in CGHE Online." On the survey, a score of 1 indicated that the respondent did not agree at all with this statement, while a score of 7 indicated their complete agreement. Although all of the age group means were closer to 1, the 30-39 group and the 60+ group had significantly higher means (see Table 8), indicating that these two groups may have felt more pressure to participate than the other two groups.

Table 8.
Question 5 and age

Age	Mean	N	Std. Deviation
30-39	2.58	12	1.881
40-49	1.80	10	1.619
50-59	1.67	33	1.051
60+	2.83	24	1.903

Age and Competence

Age also had an effect on mean competence scores, though not a statistically significant one (see Table 5). Competence scores were highest for the 40-49 age group (see Table 9), followed by those 30-39 years of age. However, the competence scores for those 50-59 were more than three points below the 40-49 age group, and the scores for those 60+ were almost six points lower than the top group.

Table 9.
Competence and Age

Age	Mean	N	Std. Deviation
30-39	31.10	12	5.600
40-49	32.78	10	5.362
50-59	29.13	32	6.736
60+	26.93	24	7.275

In examining the Basic Needs survey questions that contributed to competence scores, one was found to have a statistically significant difference in means ($p = .05$, see Table 6) when grouped by age. Question 19 read, "When I am on CGHE Online I often do not feel very capable"; a score of 1 indicated that the respondent did not agree with this statement at all, while a score of 7 indicated that he or she agreed completely. The two youngest age groups scored means between 1.1 and 1.5 (see Table 10), indicating that they felt very capable when on CGHE Online. However, the 50-59 group indicated that they might tend to agree a little more with the statement that they didn't feel capable while on CGHE Online with a mean of 2.38. The 60+ age group had the highest mean score at 3.04, indicating these members "somewhat agreed" that they didn't feel very capable while on CGHE Online.

Table 10.
Question 19 and Age

Age	Mean	N	Std. Deviation
30-39	1.50	12	0.674
40-49	1.10	10	0.316
50-59	2.38	33	1.657
60+	3.04	24	1.989

Age and Relatedness

The difference in relatedness between age groups was statistically significant ($p = .034$, see Table 5), indicating that age does have an important effect on feelings of relatedness in this community. In looking at the mean scores, the higher the age, the less related a respondent felt to CGHE Online. Those in the youngest age group, 30-39, felt the most relatedness in conjunction with CGHE Online, with mean scores of 42.6 (see Table 11). The 40-49 and 50-59 age groups were three points behind the youngest group, with mean scores between 39.5 and 39.6 respectively. However, the 60+ age group was a full five points below the two middle age groups and eight points below the youngest age group with a mean of 34.5, indicating that the 60+ age group felt much less related to the CGHE Online community than their peers.

Table 11.
Relatedness and Age

Age	Mean	N	Std. Deviation
30-39	42.61	12	8.439
40-49	39.51	10	9.096
50-59	39.62	32	7.427
60+	34.54	24	8.982

Question 2 on the Basic Needs survey, "I really like the people I interact with on CGHE Online", produced a significance of .022 (see Table 6) when grouped by age. Again, the 60+ group varied the most widely from the other age groups (see Table 12);

while the first three age groups were closely in agreement with the statement with mean scores between 5.85 and 6.00, the 60+ age group were more than a point below the others at 4.67.

Table 12.
Question 2 and Age

Age	Mean	N	Std. Deviation
30-39	6.00	12	1.128
40-49	5.70	10	1.252
50-59	5.85	33	1.564
60+	4.67	24	1.761

Age and Needs Total

Perhaps not surprisingly, given that the mean scores for autonomy, competence, and relatedness showed differences that were all either significant or close to significant when grouped by age, the Needs Total means also showed differences by age (see Table 13). The 30-39 age group showed the highest total score with a mean of 114.69, with the 40-49 age group close behind at 113.27. The 50-59 age group had a somewhat lower total with a mean of 109.96. However, the 60+ age group had a far lower mean Needs Total than any of the other age groups, with a total of 97.41. This statistically significant difference ($p = .025$, see Table 5) indicates that the older a community member was, the less their basic needs for motivation were being met.

Table 13.
Needs Total and Age

Age	Mean	N	Std. Deviation
30-39	114.69	12	18.095
40-49	113.27	10	18.389
50-59	109.96	33	15.982
60+	97.41	24	23.315

*A*ge and Participation

It is interesting to note that although there were significant differences between age groups in how basic needs for motivation were being met, there were no significant differences in participation (see Table 5). The 50-59 age group had the highest mean participation score at 67.04 (N=27), followed closely by the 30-39 group with 61.09 (N=11). The 60+ group was less than 3 points lower with a mean of 58.00 (N=21). The 40-49 group had a mean of 42.33, 16 points below that of the 60+ group (N=9).

Race

Race and Autonomy

When mean scores for autonomy were compared by race, Caucasians, who make up the bulk of CGHE Online participants and survey respondents, scored lowest with a mean of 38.87 (see Table 14). However, there doesn't appear to be a statistically significant relationship between race and autonomy (see Table 5), and the low numbers of non-Caucasian survey respondents/community members means that this finding would be difficult to apply to a broader context.

Table 14.
Autonomy and Race

Race	Mean	N	Std. Deviation
African-American	39.08	10	7.381
Asian	43.00	1	0.000
Caucasian	38.87	59	7.464
Hispanic	42.40	5	7.470
Other	40.67	3	1.155

Race and Competence

Competence mean scores for Caucasian respondents (M=28.22, N=59) were

lower than all other races in this survey, as compared to that of African-Americans

(32.42, N=10) or Hispanics (M=31.60, N=5). However, grouping scores by race produced no significant results on competence scores within the CGHE Online community (see Table 5).

Although there was no overall finding that race impacted competence, one of the survey questions that dealt with competence did show significance when grouped by race at p=.051 (see Table 6). Question 12 stated, "Most days I feel a sense of accomplishment from using CGHE Online." Caucasian respondents, with a mean of 4.13, were less positive towards this statement than respondents of other races, although they were still positive about feeling a sense of accomplishment as a group (see Table 15).

Table 15.
Question 12 and Race

Race	Mean	N	Std. Deviation
African-American	5.52	10	1.503
Asian	6.00	1	0.000
Caucasian	4.13	61	1.756
Hispanic	5.20	5	1.643
Other	6.20	2	0.283

Race and Relatedness

Hispanic respondents felt the most relatedness to the CGHE Online community, with a mean score of 44.6 (N=5). Caucasian respondents had a much lower mean of 38.1 (N=59), while African-American respondents had the lowest relatedness to the community with a mean of 36.2 (N=10). However, none of these differences were statistically significant.

Race and Needs Total

The sole Asian respondent to this survey had high scores overall, producing a very high means total of 122. The five Hispanic respondents scored second highest in

having their basic needs for motivation met within this community, with a mean score of 118.6. African-Americans (M=107.70, N=10) and Caucasians (M=105.56, N=61) had the two lowest needs totals. However, this means comparison was not statistically significant (see Table 8).

Race and Participation

Although the Asian (M=9.00, N=1) and Hispanic (M=13.20, N=5) respondents had the highest Needs Total means, they also had the lowest participation means. African-Americans (M=61.80, N=10) and Caucasians (M=64.49, N=51) had very similar mean participation totals. However, the differences between these groups were not statistically significant (see Table 5), perhaps because of the low number of N for some races as well as the wide variation in participation scores within groups.

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Most of the participants in CGHE Online are female. In the field responding to this survey, 69 were female and 9 were male.

Gender and Autonomy

Although the 69 female respondents did have higher autonomy scores (M=39.67) than the 9 male respondents (M=36.02), the difference in means is not significant (see Table 5). One of the survey questions that addressed autonomy did have statistical significance when grouped by gender, however (p = .030, see Table 6). Question One, "I feel like I can make a lot of inputs to deciding how I participate in CGHE Online" produced means that were overall positive for both genders. However, female respondents felt significantly more positive towards this statement than did male respondents (see Table 16).

Table 16.
Question 1 and Gender

Gender	Mean	N	Std. Deviation
F	5.69	70	1.584
M	4.44	9	1.590

Gender and Competence

When competence scores were grouped by gender, female respondents (M=29.42, N=69) scored slightly higher than male respondents (M=27.73, N=9). However, there is no statistically significant relationship between gender and competence in this community (see Table 5).

Gender and Relatedness

With means for relatedness that are within one point of each other (Female: M=37.60, N=69; male: M=37.60, N=9), there appears to be no significance between gender and relatedness within this community (see Table 5).

Gender and Needs Total

Female respondents (N=70) had a mean Needs Total of 108, while males (N=9) had a mean of 101. However, there is no statistically significant relationship between gender and Needs Total (see Table 5).

Gender and Participation

Although female respondents' participation scores (M=61.34, N=59) were slightly higher than that of males (M=52.11, N=9), there is no statistically significant relationship between gender and participation (see Table 5).

Years of Experience

The majority of survey respondents had many years of experience in their professional field, with 38 indicating that they had more than ten years of experience. 28 had 5-10 years of experience, while only 12 had five years of experience or less.

Years of Experience and Autonomy

As respondents' years of experience in their profession increased, their autonomy scores decreased. Those only in the profession for 1-5 years had the highest mean autonomy score at 41.67 (M=41.67, N=12), followed by those who had been professional educators for 5-10 years (M=40.40, N=28). Respondents who had been in their field the longest, more than ten years, had the lowest mean autonomy score at 37.63 (N=38). However, these differences are not statistically significant at the .05 level (see Table 5).

Years of experience and Competence

All three experience groups were very close in terms of mean competence scores. Those with 1-5 years of experience scored highest at 31.03 (N=12), while those with 5-10 years scored slightly lower (M=29.50, N=28). Those with 10+ years of experience scored lowest at 28.45 (N=38). These differences were not statistically significant (see Table 5).

Years of Experience and Relatedness

Those with fewest years of experience scored the highest in terms of relatedness, with a mean of 41.7 (N=12), followed by those with 5-10 years with 38.3 (N=28). The group with 10+ years of experience was lowest with a mean of 37.6 (N=38). However, these differences in means are not statistically significant (see Table 5).

Although relatedness didn't produce a significant difference when grouped by years of experience, one of the questions dealing with relatedness did. Question 7 (p=0.40), "I don't interact with others on CGHE Online", had a mean of 3.00 with the 1-5 years group, indicating that this group felt this statement to be "somewhat true" overall

(see Table 17). The 10+ group felt this statement to be slightly more accurate, with a mean of 3.36. The middle group, those with 5-10 years of experience in their field, felt this statement to be the most relevant, with a mean of 4.38.

Table 17.
Question 7 and Years of Experience

Years of experience	Mean	N	Std. Deviation
1-5	3.00	12	1.651
10+	3.36	39	1.953
5-10	4.38	28	1.827

Years of Experience and Needs Total

The overall total of the three Basic Needs scores, when grouped by years of experience as an education professional, indicated that the group with the least experience had the highest Needs Total (M=114.40, N=12), followed by the 5-10 year group with 108.24 (N=28). Those with the most experience in their field had the lowest Needs Total (M=104.41, N=39), indicating that those with the most experience are having their needs met the least. These differences were not statistically significant, though (see Table 5).

Years of Experience and Participation

While the two groups with more years of experience have nearly identical participation means (5-10 years: M=66.12, N=24; 10+ years: M=66.67, N=33), those with only 1-5 years of experience participated less, with a mean participation number of 27.82 (N=11). However, due in part to the large variation in participation totals within the community, this difference is not statistically significant (see Table 5).

Experience Level

Experience level in the survey consisted of three values: (3) highly proficient, (2) somewhat proficient, and (1) not proficient. None of the respondents chose "not

proficient." Most of the survey respondents indicated that they considered themselves to be "highly proficient" in regards to their professional field.

Experience Level and Autonomy

Those who considers themselves only "somewhat proficient" (M=40.95, N=14) had a slightly higher autonomy score than those who considered themselves "highly proficient" (M=38.88, N=64). However, these differences are not statistically significant (see Table 5).

Experience Level and Competence

Those who rated their overall professional experience level as "somewhat proficient" had a higher mean score of competence in the CGHE Online community than those who rated themselves as "highly proficient" (see Table 18). This finding is statistically significant (p=.031).

Table 18.
Competence and Experience Level

Experience Level	Mean	N	Std. Deviation
2	32.74	14	6.893
3	28.46	64	6.539

The mean scores for one of the basic needs survey questions that makes up the competence total showed a significance of .029 when grouped by experience level (see Table 6). For question 4, "People on CGHE Online tell me I am good at what I do", respondents who rated their experience level as being "somewhat proficient" scored a mean of 4.7, meaning they agree with that statement more than their colleagues who rated themselves as "highly proficient" (see Table 19).

Table 19.

Question 4 and Experience Level

Experience Level	Mean	N	Std. Deviation
2	4.70	14	2.007
3	3.46	65	1.859

Experience Level and Relatedness

Those who rated themselves as being "somewhat proficient" in terms of their professional experience level had a higher mean relatedness score (M=41.28, N=14) than those who rated themselves as highly proficient (M=37.90, N=64). This finding was not statistically significant (see Table 5). However, one of the basic needs survey questions dealing with relatedness showed a significance of .047 when grouped by experience level. Question 15, "People on CGHE Online care about me", was answered more positively by those who rated themselves as "somewhat proficient" than by those who rated themselves as "highly proficient" (see Table 20).

Table 20.

Question 15 and Experience Level

Experience Level	Mean	N	Std. Deviation
2	5.14	14	1.027
3	4.11	65	1.843

Experience Level and Needs Total

Survey respondents who rated themselves as being "somewhat proficient" in their professional capacities scored higher (M=114.97, N=14) in having their basic needs for motivation met than those who rated themselves as "highly proficient" (M=105.63, N=65). However, this difference was not statistically significant (see Table 5).

Experience Level and Participation

In contrast to the basic needs findings, those rating themselves as "somewhat proficient" had lower participation totals (M=36.86, N=14) than did those who rated themselves "highly proficient" (M=66.15, N=54). However, these differences were not statistically significant (see Table 5).

Computer Experience

The survey question addressing computer experience asked respondents to indicate whether they felt (3) "very proficient", (2) "somewhat proficient", or (1) "not proficient" in regards to using computers. Very few members of CGHE Online indicated that they were "not proficient". Respondents were divided almost evenly between "somewhat proficient" and "very proficient".

Computer Experience and Autonomy

Respondents who indicated that they were "not proficient" when it comes to computer use had the highest mean autonomy scores at 40.75, although there were only two of these individuals. The scores for the other two groups ("Somewhat proficient": M=39.77, N=39; "Very proficient": M=38.62, N=37) were very close in mean autonomy score, leading to the finding that there was no statistically significant difference between these groups (see Table 5).

Computer Experience and Competence

Again, the two users rating themselves as being "not proficient" in regards to their computer experience had the highest competence score at 36, while the other two groups (comprising the bulk of the respondents) had very similar means ("Somewhat proficient": M=28.74, N=39; "Very proficient": M=29.37, N=37). The differences between these groups were not statistically significant (see Table 5).

Computer Experience and Relatedness

Those survey respondents who rated themselves as being "not proficient" (N=2) in using computers had the highest levels of relatedness, with a mean relatedness score of 42. Those who felt themselves to be "somewhat proficient" had a mean of 39.28 (N=39), followed closely by the "highly proficient" group at 37.5 (N=37). The mean scores of all three groups were very similar, and the differences were not statistically significant (see Table 5).

Computer Experience and Needs Total

The mean needs total for the two users reporting themselves as "not proficient" in using computers was 118.75, ten points higher than the "somewhat proficient" group with 108.38 (N=40) and thirteen points higher than the "highly proficient" group (M=105.48, N=37). It is interesting that those who consider themselves "not proficient" in regards to computer use are apparently having their basic needs for motivation addressed better than those who feel more proficient in their computer use. But with an N of only two "not proficient" users it is difficult to draw any conclusions for this difference, which is not statistically significant (see Table 5).

Computer Experience and Participation

Those survey respondents who indicated that they are "highly proficient" in their computer experience had the highest participation mean (M=74.19, N=32), followed by those who were "not proficient" (M=55.50, N=2). The "somewhat proficient" respondents had the lowest participation mean (M=47.15, N=34), but all three means were relatively close together and the differences were not statistically significant (see Table 5).

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Community

There are two separate communities within CGHE Online. The "in-state" group, comprised of members within the same state as the sponsoring university is the largest and had the most survey respondents. The "out-of-state" group, which is made up of members from surrounding states, is smaller and had fewer respondents. There was an additional group of respondents who chose to answer the survey anonymously; they therefore could not be matched with a particular community group.

Community and Autonomy

The autonomy means for the two communities were only about half a point apart ("instate": M=39.23, N=51; "out-of-state": M=39.74, N=16), and the mean score for the anonymous group was very close as well (M=38.64, N=11). Community does not appear to significantly affect satisfaction of the basic need for autonomy in CGHE Online (see Table 5).

Community and Competence

The "out-of-state" community reported much higher satisfaction of their basic need for competence, with a mean score of 33.05, than the "in-state" CGHE and anonymous groups, who scored 28.50 and 27.02 respectively (see Table 21). This difference was statistically significant (p = .030).

Table 21.
Competence and Community

Community	Mean	N	Std. Deviation
Anonymous	27.02	11	4.854
"Out of state"	33.05	16	5.471
"In-state"	28.50	51	7.104

Community and Relatedness

All three community groups were approximately equal in terms of mean scores for relatedness. The small amount of variation was not statistically significant (see Table 5).

Community and Needs Total

The "out-of-state" community had a slightly higher needs total mean score at 111.51 (N=16) than did the "in-state" and anonymous groups, which scored very similarly at 106.40 (N=51) and 106.17 (N=12) respectively. The difference between the "out-of-state" community and the other two groups was not statistically significant (see Table 5).

Community and Participation

The sixteen "out-of-state" respondents (M=79.00, N=16) participated in CGHE Online more than the "in-state" respondents (M=55.37, N=51), but the difference was not statistically significant. The 11 people that chose to respond anonymously could not be matched with participation data.

Quantitative Analysis: Conclusions

Correlation analysis indicated that within CGHE Online, satisfaction of members' basic needs for autonomy, competency, and relatedness are all positively correlated. Regression analysis indicated that there is no statistical significance between levels of autonomy, competence, and relatedness and respondents' participation in CGHE Online. However, beta coefficients for each independent variable suggest that while satisfaction of the need for competence and relatedness are positively associated with participation, autonomy is negatively associated with how much users participated in this community.

Of all of the identity factors considered in this study, age appeared to have the most pronounced effect on satisfaction of the basic needs that impact motivation. Autonomy, relatedness, and needs total all indicated differences between age groups that were statistically significant, and competence was fairly close to being significant as well. Generally speaking, the older the respondent, the lower the given scores were. In particular, the 60+ age group had mean scores that were significantly lower than the other groups. However, this age group had higher levels of participation than several of the other age groups, and in fact age seemed to have no effect at all on participation.

Experience level had a statistically significant impact on competency means, with those rating themselves as "highly proficient" in their chosen field of expertise actually reporting lower satisfaction of their need for competency in the CGHE Online environment than those who listed themselves as "somewhat proficient." Although the differences in means for autonomy, relatedness, and needs total were not statistically significant, in all of these categories the "highly proficient" group reported lower levels of needs satisfaction. However, the "highly proficient" group had higher participation totals than the "somewhat proficient" group, although the difference was not statistically significant.

Both CGHE Online communities, "out-of-state" and "in-state", were very similar in terms of the satisfaction of respondents' basic needs for autonomy and relatedness. However, there was a statistically significant relationship between community and competence, with "out-of-state" members scoring a higher mean competence score than both the "in-state" community and the group of anonymous respondents whose community could not be determined. There was no statistical significance, however, in needs or participation totals.

Examining the disparity in means by gender, race, and years of experience produced no significant differences in satisfaction of basic needs for motivation or in participation totals. Contrary to expectations, comparing the means of respondents grouped by computer experience produced no significant differences either; computer experience appeared to have no effect on needs satisfaction or participation in the CGHE Online community.

QUALITATIVE RESULTS

As discussed in Chapter 2, a blended framework of identity and motivation for online communities of practice fuses Wenger's work with self-motivation theory in order to provide a fuller conception of what produces the spectrum of participation within a community like CGHE Online (see Figure 7). Some of the "other" communities that CGHE Online members belong to were uncovered in the quantitative portion of this study, represented in Figure 7 by the additional circles emanating from Member #1.

Figure 7.

REVIEW -
A blended model of identity and motivation in CGHE Online

"Nexus of multimembership" - participation is mitigated by?

"Participation in negotiated experience"- participation is mitigated by?

CGHE Online community membership – participation is mitigated by?

Employing Institution

Place of origin

Professional Experience "Somewhat competent" group actually has higher

Computer expertise

Gender

Race

Family

Age 60+ age group significantly lower in autonomy, relatedness, & basic needs total

Member #1

CGHE

CGHE Online Subgroup

Other Institution/ employer

Undergrad university

Professional associations

CGHE Online community membership

Competence

Autonomy

Relatedness

CGHE Online community membership

Member #3

Member #2

The framework indicates three key areas of focus for examining participation within a community of practice: the nexus of multimembership, participation in negotiated experience, and community membership. Accordingly, the multi-case analysis of the qualitative findings of this study was framed using those three areas, in terms of how participation is mitigated. Some of the themes that fit under these three areas are ones that were purposefully explored through specific questioning based on the theoretical framework; other themes emerged from examining the data, but still fit under the three broad categories. The following illustration (Figure 8) takes the general framework created in Chapter 2 and overlays it with the qualitative findings from this study.

Figure 8.

FINDINGS -
A blended model of identity and motivation in CGHE Online

"Nexus of multimembership" - participation is mitigated by:

ï CGHE as a parent community
ï Other communities, including:
  ï Online communities
  ï Employing institution
    ï *Cohort groups*
    ï *Institutional control*
  ï Time required by these other communities

"Participation in negotiated experience" - participation is mitigated by:
ï Perceptions of the community's purpose
ï Technical affordances
ï Monetary stipend for participation
ï The role of CGHE in directing community experience
ï Interactions with other community members

Employing Institution

Place of origin

Professional Experience "Somewhat competent" group actually has higher

Computer expertise

Gender

Race

Age 60+ age group significantly lower in autonomy, relatedness, & basic needs total

Family

Member #1

CGHE

Other Institution/ employer

CGHE Online Subgroup

Undergrad university

Professional associations

Competence

Autonomy

Relatedness

CGHE Online community membership

CGHE Online community membership

Member #2

CGHE Online community membership

Member #3

CGHE Online community membership – participation is mitigated by:
ï Perceptions of role on CGHE Online
ï Feeling unrelated/different
ï Materials not of value
ï Lack of response by other members

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Negotiated Experience: "What I Do in CGHE Online"

"Negotiated experience" is participating in the practices of the community, i.e., the activities and affordances that make the community a unique entity. A review of the literature produced directed questions in this area addressing community purpose, the affordances of the community (including those provided by the technical interface), the monetary stipend for participation, the role of CGHE in directing experience within the community, and interactions with other members within the community (see Appendix C).

Purpose

One thing that defines a community is a shared sense of purpose; it follows that if the purpose of the community is unclear to the participants, there may be a lack of a sense of unity within that community. Therefore, one of the interview questions that was posed to all study participants was, "What do you think the purpose of CGHE Online is?" A corollary question, "What is YOUR purpose in using CGHE Online?", was also sometimes asked as well, if the respondent seemed to indicate that their goals within the community differed somewhat from what they perceived the overall goals of the community to be.

Responses to this question fell primarily into two categories: one group of people felt the primary aims of the community were mostly social, i.e., networking and collaboration between colleagues. The other group viewed the site as more of a library-type resource, where they went to get specific information or answers. Most respondents felt the purpose of the community was some combination of these two goals; the difference lay in the perception of what the primary purpose was. This combined view was exemplified by one respondent who believed the purposed of the community was "to disseminate…some of the materials that we're getting here, to share that with us. And

even maybe to allow us more communication time with each other, to share what's going on with us and what's going on with each other." Another respondent thought that the purpose "would be to network primarily, and then to inform, and then to encourage."

Almost all the community members interviewed for this study believed that a main purpose of the site was to get "the latest thing out there", whether that latest thing was scientifically-based research, teaching ideas, assessments, or practices. Many of the older participants viewed this access to the most current ideas and materials as a way to "refresh" their knowledge and skills. Some viewed CGHE as the primary disseminator of information, an "official" arbitrator of "correct" knowledge. The postings of colleagues were seen as a secondary source of "the latest". Interestingly, although providing resources was noted by most as a primary purpose of CGHE Online, only one respondent mentioned that the site also allowed her to be a resource to others within the community. Most respondents focused on the getting of information rather than the giving of it.

Almost all of the respondents mentioned the opportunity to make connections with other people as a purpose of the site. Many of those interviewed mentioned the opportunity to connect with colleagues from other universities as a key benefit of interacting through CGHE Online. Faculty members at different universities apparently emphasize different ideas under the overarching umbrella of teaching scientifically-based reading, and several respondents were pleased to have access to the "different perspectives." Those from smaller colleges noted that they appreciated the opportunity to check their understanding and ideas against those being espoused by the faculty from the larger universities. One interviewee discussed a contact that she had made through the site, with whom she went on to engage in collaborative research projects. Two of the interviewees mentioned these collaborative "connections" in terms of feeling "encouragement," believing that the connections made within the community could boost

both an individual's knowledge and their self-worth. However, when asked for specific examples of the community providing such encouragement, neither could recall an instance. It is possible that the community providing encouragement was seen as an "ideal", rather than as an actuality.

The Technical Affordances of CGHE Online

Although the extant literature on online communities of practice points to technical interface issues as being a primary barrier to the success of such communities, the participants in CGHE Online who were interviewed for this study had few issues with the interface as a whole. Almost all noted that the site was easy to understand and to navigate, and felt it was "very user friendly" and "well set-up." One of the users had problems logging into the site initially because of some username issues, but said "once I got in, it was very easy to use."

Two interviewees did report some dissatisfaction with the interface, mostly related to their inability to sift through all of the discussion threads and responses in order to get to the ones that they found relevant to them. One compared the process to "navigating in mud and sludge," saying she "just couldn't sift through" all of the many responses. The second decried the amount of time spent "going in and scanning each article, and then finding out that it's not appropriate to what I want at all!" Both of these interviewees thought that some sort of sorting mechanism, according to more specific categorizations than were currently offered, might help them with this process. It should be noted that the two interviewees who reported these significant problems with the interface were also the two oldest participants in the survey.

The Monetary Stipend to Participate

Not all of the interviewees had been in CGHE Online long enough to have received the monetary stipend that participants were given at the beginning of the community; about half said they had received the stipend as a condition to their participation in CGHE Online at some point. Those who had received it were divided on whether the stipend had influenced their participation or not. Two members said that they would participate in CGHE Online whether they were paid or not, because they enjoyed the sense of community and thought it provided interactions that they wouldn't get otherwise. One of these noted that she just really liked online communities, and prefers that method of learning. Both of these members had very high scores on all three of the Basic Needs Measures. Conversely, two of the interviewees stated that they would not have participated in CGHE Online without the stipend, and had in fact ceased any meaningful interaction with the site when the stipend had ended. One said, "I started because I was motivated to get the money that I would get if I participated. This whole thing, my focus has always been, it's about the money. I wouldn't do anything if it weren't worth money to me." The other mentioned that she was adamant about not participating in professional development activities such as CGHE Online if she didn't get some sort of payment for it. Again, these interviewees were two of the oldest in the interview group, and both scored relatively low on the Basic Needs Measures.

The Role of CGHE in Directing Experience Within the Community.

Motivation to participate in online communities of practice can sometimes be lessened if participants perceive a heavy-handed, autocratic presence on the part of the entity that is sponsoring the community. Accordingly, interviewees were questioned regarding their feelings about CGHE's role and presence in the community.

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All interviewees reported positive feelings towards CGHE as an organization. This may have been in part due to the perception that the interviewer was a part of the CGHE staff. However, even those who very honestly reported negative feelings to some parts of CGHE Online indicated that they felt positively about CGHE as a whole. All participants said they felt no pressure from CGHE to keep their participation within the community within proscribed parameters; they felt like they could "talk about anything," give "honest feedback," and in fact pointed out that CGHE had "really sought our feedback" in terms of how the community could be improved. One participant noted:

"I didn't feel like it was controlled, or I was afraid. In fact, it felt like kind of the opposite. Because I felt like I was sort of undercover sometimes at my own setting, and this was a place I could flourish and feel free to express."

Rather than wanting less interference by CGHE in the workings of the community, several participants indicated their desire for more direction on the part of CGHE. They recommended that CGHE return to requiring participation in the community as a part of the regular set of activities required of CGHE members as a whole, with post and visit counts as a measure of participation.

Interactions with Other Community Members

Only two of the CGHE participants that were interviewed mentioned having personal differences with people on the site, as far as their interactions went. One referred to having an aversion to "rambling" in the discussions, saying, "I know everybody thinks what they have done is the acme of success, but it may not be what I'm looking for." Another reported that there were "a couple of individuals that were really sort of hogging the conversation, so … then I'll shut up and turn off.. But if there's a dialogue going on, I'll certainly participate – a TRUE dialogue." Both of these individuals had very low scores on the Basic Needs Scales, and also had low participation totals.

Community Membership: "Who I Am in CGHE Online"

As noted in Chapter 2, Wenger's conception of community membership was an individual's understanding of who they were in the community, as well as their perception of how others in the community saw them. Along these same lines, community membership also includes member's perceptions of others in their community and of themselves in comparison to others. In the interviews for this study, participants were specifically questioned about issues such as their place on the expert/novice continuum and their perception of their role on the site. In addition to these themes, several other issues involving community membership emerged from the open-ended questioning. These issues involved participants' feelings of "difference" from the rest of the community, belief that the site was not of value to them as individuals, and dissatisfaction with a lack of responses to their contributions.

Perceptions of Role on Site

Most CGHE Online members that were interviewed said they were on the site primarily for the purpose of seeking information, rather than for the purpose of sharing what they know with others. Many mentioned wanting to learn from experts, which one described as "crav(ing) being around people that know more than I do." Several noted that they don't necessarily feel like experts within their own field, but when they got on CGHE Online they felt like they were put in the position of being experts, compared to others that were on the site. Three interviewees said that if they could spend more time with people on the site that they felt were truly expert, they would come on the site more. The two oldest interviewees both said that they didn't want to be the experts, they just wanted answers. Several of the participants also felt like they didn't need to offer their expertise since there were already more than enough experts available; one said, "They don't need more people to help, I mean the world is full of them." The other was

reluctant to weigh in on issues in discussions where someone else had already offered a solution to a problem, saying, "It seemed like most people had already generally addressed the question, so why keep beating a dead issue? The question had already been answered, and I could say, I agree, but that would be a waste of time."

Interestingly, the youngest participant in the interviews was the one who behaved most like Wenger's ideal expert, saying that she spent her time "offering help more than anything else." This didn't mean that she didn't feel that she learned from other people's posts, just that the majority of her contributions were offering expertise rather than seeking it.

CGHE Online did make an effort to bring in noted experts in the field to host ongoing question and answer sessions; however, only two of the participants mentioned that these q-and-a sessions were useful to them. One interviewee had an interesting observation in regards to this issue:

"There were the experts that they brought in that you could have the Ask an Expert, and I thought that was pretty neat, but people didn't really go for that as much as I though they would! A couple of times he answered kind of short, like, I can't get back to that right now, so people just kind of thought, oh, I won't bother him."

Two participants both mentioned their lack of doctoral degrees as the basis for feeling too intimidated to initially answer questions and provide expertise. One noted:

"When I would come to the CGHE meetings I would feel intimidated, because I don't have a doctoral degree, and a lot of times they would put doctor on my envelope, and I'd think, oh no! But when we would get in there and have the discussions, I would think, oh, I know this stuff, I know what they're talking

about, I did it yesterday! And I would get real inspired by going on there. I felt a little bit intimidated sometimes."

Not Intended for Me/I'm Just Different

Over half of the interview participants mentioned that they felt like CGHE Online had been created for a different audience than them, or that they felt markedly different from the rest of the participants on CGHE Online. One member of the oldest age group felt that differences in background and purpose might be the issue. She noted that "I thought it might be of interest to someone, somebody else, but I realize many of my interests aren't the interests of the general." In talking through why this might be the case, she felt that her purpose and goals as an educator were substantially different than those of the rest of the community, due to differences in how standards were upheld during her formal professional education. She said,

> "You know, they have a much broader audience today than it did when we started out. Here at (the sponsoring university) we had a pretty thorough, all around grounding in what we were doing, and I'm old fashioned, I think we should hold lines, not make it easier for other people to enter the profession. But that's probably not for your general ed. Here you have two groups of people, old college people like I am, or new young novices coming into the profession. Those are the ones that are going to be active in it. We're looking for ideas to update us. They're looking for survival!"

Another issue was the social nature of the site. Several interviewees said they believed social interaction was a primary purpose of the site, one that didn't suit their personal style of learning. A participant from the oldest age group felt this issue acutely, and mentioned it multiple times over the course of her interview, saying:

"… to me it appeared like a social gathering. And I'm out there for a different reason. I think it's a wonderful idea that it seems is what you have, to capture that audience and support them, and that's what it should be, but it just wasn't me. So, that's probably why I didn't continue….There were a lot of people that, I could recognize they were having a good social time out there, and I thought, really, this is for them, it must not be for me…I'm probably rare, I think I am, and there are a lot of people that use that social side to it…But I think it's good as something extra for people who have the time and will spend the time on there…I think you're targeting that generation of kids that live online, people separated from their extended families, maybe there is a need there that you're solving for them….So maybe I'm a different type of human being than a lot of people who do spend a lot of time online."

Conversely, one interviewee felt very different from other participants in CGHE Online and indeed from most of those in her profession in general, because she loved the social interaction in CGHE Online and felt that most others didn't:

"I do know that the original people, they probably did it because it was a requirement for the stipend, and some people ONLY did it for the stipend, they did their minimum amount and then they got out of there because they didn't really care for it all that much. I don't get the chance very often to talk to adults, you know, because I teach young children and have for 26 years, and so, my kids are all grown and married now and sometimes I just like to talk to grownups. Like, oh, let me get on CGHE Online and see who's on there tonight. Like I always wished that there had been a chat, so there could be live communication. They kept saying that they were going to add that, but they never did. I would LOVE that. But see, things like that, no one ever gets on it. My principal has

started using online communities to do book studies! And I love it! But some people, it's just not their thing, it's not how they learn, and they don't want to participate at ALL. So we had sort of a struggle trying to get people at school to participate. And then other people that really like that, are just on there all the time. So I think it's just who learns that way."

Materials Not of Value/Not Related to Me

In an issue that appears to be somewhat related to participants feeling disconnected from the purpose of the community, many interviewees noted that they felt disconnected from the content of the community as well. One felt that "usually there was nothing in there of value for me to read anyway", and another said that when it came to the discussions on CGHE Online, in general "I just didn't find that they pertained to me." Two other participants said more specifically that their areas of daily activity were somewhat different than that of most of the participants in CGHE Online, so little of the information in the discussions was relevant to their needs.

Lack of Response By Other Community Members

Six of the interviewees reported experiencing disappointment when they contributed to discussions on CGHE Online and their posts weren't answered or responded to by other community members. For instance, one participant said she posted a question, and then went back to the site numerous times to see what the responses to it were; she thought, "FINALLY I have a need and they're going to support me! So I went up there and…I visited several times to see if anyone had bit on this question I had about research, and no." This sentiment was echoed by another participant, who said:

"Maybe there would be conversations going on, and if I added something there would be no response? And so I felt like if I added something, it maybe wasn't

validated or anything. And so I just quit! It was like, well, forget it. At the very beginning, if you asked a question, you got an answer immediately. And then, there was just like this no response time. And I think it was then that, I've been with y'all since the second year it was first in existence, and I think that was when it sort of dwindled. Because at first, you got something back, BAM! Like a day or less. And then, it was like, well, it sits there…"

From the opposite perspective one participant did note that when she received responses to her postings, it indicated that her postings were valid, and "I'd kind feel like, oh, OK, more like that."

Nexus of Multimembership: "Who I Am in Other Communities"

Interviewees made numerous statements regarding their identity outside of the community when addressing questions that were directed at issues within the community. Some participants made declarative statements about their identity, like the educator who noted that, "I'm looking to be efficient and I'm looking to learn, that's who I am!" Others brought up their background to explain their reactions to situations within CGHE Online, such as the interviewee who stated that "I was the skeptical one, because they had made all these promises you know, and I'm from back east where you don't buy any of this stuff." An individual's identities in multiple communities form what Wenger refers to as the "nexus of multimembership"; the ways in which these other communities influence participant identities within CGHE Online is a primary concern for this study. Specific questions posed to interviewees addressing the nexus of multimembership included ones pertaining to participation in other online communities and interactions with a cohort of fellow educators within employing institutions. Additionally, two significant themes emerged from participant responses: identity within the overall CGHE community, and (non-cohort related) issues relating to employing institutions.

Identity within CGHE As the Larger Community

As was previously mentioned, all those CGHE Online members who were interviewed for this study reported mainly positive feelings towards CGHE's handling of the online community. Additionally, most participants painted positive portraits of their identity within CGHE proper (as opposed to CGHE Online). One member who had very low Basic Needs Assessment scores explained,

"I'm ANYTHING but negative on any aspect of CGHE. In fact, even yesterday before I left, I was talking to my boss, and I was telling her about CGHE and I told her there were so many facets of this thing, and when I go (to the conferences) it's like a whole other world and I really look forward to it, and it's just positive!"

Three members described networking opportunities within the CGHE face-to-face conferences that led to productive research partnerships, noting that those activities helped to build their sense of themselves as experts and fruitful participants within their professional field. Two others said that CGHE offered them opportunities and materials that augmented areas of research that they were already discovering on their own. One of these two members described the situation by noting that "I've found validation and encouragement in CGHE. I have such strong convictions about that. I'm going to say CGHE provides a great community to me."

Identity within Other Online Communities

Very few interviewees reported participating in other online communities. Listservs were the most commonly discussed technology for communicating with colleagues on a asynchronous basis, although the participants who reported using listservs mostly seemed annoyed by them. As one said, "I've signed up for a number of listservs and messages that have come in to me, updates, and I don't think I've

participated in any of them, ever." Several also seemed to feel that listserv technology was too outdated for them to use. One participant noted that listservs were a technology that his professors used when he was getting his doctorate.

Two interviewees reported significant use of other online blog/discussion-type communities. The first was the heaviest user of CGHE Online, an individual who also had very high Basic Needs Scales scores. She described extensive online community usage in her capacity as a professional educator: "I've been a mentor for HP and I run several online communities with elementary schools across the nation, through winning a technology for teaching grant. So I'm in online communities all the time." The other participant who acknowledged frequent use of other online communities was not a regular user of CGHE Online and had medium-low scores on the Basic Needs scales. She said, "Actually, I'm quite a bit online, that's why it's weird that I don't participate in (CGHE Online). But I mean, I'm on a lot of blogs and things like that. I'm a reader and a poster too. Political usually, but also educational."

Identity in Response to the Cohort Group Question

When interviewees were asked if they had a cohort group, that is, a group of colleagues whom they were able to bounce professional ideas off of, the question provoked an extensive response out of almost all of the interviewees. These responses mostly had to do with two subject areas: the institution that the participants worked at, and the ways in which their upbringing influenced their interactions with their colleagues.

A few interviewees reported having a strong relationship to their cohort of colleagues at their employing institution, but also said that they appreciated that CGHE and CGHE Online gave them a chance to get "different and interesting perspectives." However, interviewees did not feel that they had these same opportunities for a close

cohort group at their institution. Many of these believed that CGHE and CGHE Online offered them the possibility of having such a community. One noted:

"I'm kind of a one man show in the literacy department. That's one of the reasons I like coming here, because I do finally have colleagues that I can talk to and listen to and really get some great ideas from. It is nice to finally get down and talk to other professionals at the same level who are going through the same problems and concerns. They share theirs and what's nice is I get to share some of my stuff too."

Another said that "I think CGHE, the whole collaborative has given me the professional community that I didn't have at my university."

Two of the interviewees, the oldest two in the group, pointed to their backgrounds as the primary difference between themselves and the rest of their employing institution cohort. Both were raised in the Northeast, and were currently employed at small southern universities. Both pointed to their place of origin and the universities that they graduated from as the chief difference between themselves and their colleagues. One said:

"I'm from the Northeast, and I've been raised….I went to the University of Pittsburgh and I was raised with their views. There's a certain background that makes you who you are. The background of the people I work with is strongly and significantly different than mine….you have a lot of people that are really high quality, which I'm not going to put down, because they grow their own, they all know each other and have been trained by each other. And they think the same! It's a very dangerous thing, in the Northeast we weren't allowed to do that. But it is hard for me to be there, because I have to fit into a group of people that really share…well, it's a philosophy, but it's more than that, I mean, they all go to church together!"

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The second interviewee in this group described her interaction with her fellow educators in the following way:

"And as I say, I'm not mod, and so we have differences, because I hold very rigid opinions on teaching the whole spectrum, and so we have a division of thought, let's say. So you don't really have a group to cohort, the way you do here (at CGHE)."

Employing Institution Control

Two members reported that their employers were very reluctant to allow their participation in CGHE Online. Both reported reservations about talking about these issues on tape, out of fear that their employers might find out about it. The first interviewee's employer didn't want her participating in CGHE at all, because of disagreements with philosophies that the sponsoring university was perceived as having:

"And maybe this shouldn't be on tape! …With my previous bosses, I was actually criticized for being a part of (CGHE)! And I thought, having been a very whole language, let the sunshine in, let kids just, it was more that very holistic. . ..and so when I first mentioned this and tried to put in my syllabus and things like that, it was like, NO! And I don't mean it was like, not these people, she didn't even know these people, but it was like, anything out of Austin or out of UT can't be good. But no one from my campus, and in fact, I was kind of shunned…I think one of the main reasons I was afraid to post was, I don't want my boss seeing that, you know? I didn't want to put something out there. . .I think that may have had an influence on me early on, because of lack of job security."

The second interviewee's institution didn't appear to have a philosophical difference with the sponsoring university, but rather was reluctant to share what they saw

as their intellectual property with educators from other institutions. This interviewee described the situation:

"I probably shouldn't say this on the recording, but, I teach at two universities. I posted a syllabus on (CGHE Online), and then somebody made the comment that this other university had gotten a hold of our stuff, and we don't want anybody getting a hold of our stuff, and I thought, oh my gosh, I know how they got that! I posted it on CGHE Online, I thought that's what we were supposed to do! So I had to yank that thing off of there real fast. I always felt kind of bad about that, because I thought, if it helps children. . ..I took it off because I thought, oh, if this isn't public knowledge, then I better be getting it off. I thought it was rather strange. I thought I'd better pull that of there NOW before somebody gets on there and sees it! I guess they just don't want you to give away your secrets out there. But I thought, what an honor! And they were like, no, you're giving away our private stuff! But I thought I had come up with that myself and could share it if I wanted! But that scared me, because I'm not full time, and I just wanted to protect my little piece. . ."

Time Taken Up by Other Communities

Time was mentioned frequently by all interviewees as a factor in non-participation. One noted that even if the stipend were still in place, a lack of time would still make it very difficult for him to participate. In some cases, the reasons behind this lack of time were difficult to pinpoint; a multitude of roles and responsibilities on the part of the interviewee translated into a general frustration that more time was not available to them for activities such as CGHE Online.

However, in most of the cases where time was cited as a factor, the interviewee's job demands were given as the primary cause. When asked specifically about why she

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didn't participate in CGHE Online more, an interviewee mentioned that "I think just work overload, I don't think it was anything with the site per se." One participant was teaching seven classes, along with all of the attendant duties such as grading and consulting with students. Another cited the tiny number of her department's staff as the reason she was teaching 13 different classes in one year. She said, "I would love to continue (in CGHE Online)….but I think it's just a time constraint! I think it's really just running out of time." Those participants who taught at smaller universities seemed particularly taxed by the demands put on their time. As one such participant noted: "So you can see this is an encompassing job, and you're not going to have time… We're a small university, you have multiple tasks."

Qualitative Analysis: Conclusions

The qualitative portion of this study used a blended model of identity and motivation in distributed communities of practice in order to better understand how member participation is mitigated within CGHE Online. Findings indicated that participation in CGHE Online was affected in a number of ways, both positive and negative. Wenger's conception of the "nexus of multimembership," in which an individual's overall identity is comprised of memberships from all of the communities he or she is a member of throughout his or her life, indicated that participation may be mitigated by: the influence of CGHE as a parent community; participants' experiences in other online communities; the attitudes of a member's employing institution, including interactions with a professional cohort within that institution and the amount of control the institution attempts to exert over the member; and the amount of time required by participation in all of the other communities that comprise an individual's identity.

The blended theoretical framework on which this study is based also indicates that participation can be mitigated through "negotiated experience," that is, the activities and

practices that members undertake as part of their community experiences. Interviews with community members found issues related to negotiated experience, including member perceptions of the community's purpose, how the community is overseen by CGHE staff, and the technical affordances of navigating the site. A large amount of data surrounding members' interactions with other members was also uncovered, such as the need to receive responses to postings, making connections with other members, and interpersonal issues between members.

Finally, the framework indicates that participation within CGHE Online could also be mitigated by a person's membership (or lack thereof) within the community. Interviews uncovered evidence that users had a wide variety of perceptions of what their possible roles could be within CGHE Online. Additionally, a number of interviewees noted that they didn't feel related to the community.

Chapter 5: Discussion

This study, which investigated a struggling distributed community of practice for university-level professors and educators, was undertaken in order to help instructional designers understand and overcome some of the motivational challenges they face in designing and developing distributed professional communities of practice. In order to develop a framework for understanding how motivation prompts participation in such a community, Wenger's work on communities of practice was combined with Deci and Ryan's self-determination theory (SDT), in which an individual's motivation for a given activity hinges on the satisfaction of their basic need for competence, relatedness, and autonomy concerning that activity. Satisfaction of the basic needs is mitigated in two ways: through the social environment that the activity takes place in, and through an individual's "nexus of multimembership," that is, a centralized identity that an identity for a given community is only one part of. In order to address these issues, the questions used to guide this research were, (1) how do the affordances and constraints of this community affect members' motivation to participate, and (2) how does an individual's identity affect his or her motivation to participate in this community?

To answer these questions, a two-phase explanatory mixed methods study was undertaken. First, statistical data concerning participation, scores on the Basic Psychological Needs Scales, and demographics was obtained from a wide sample of members of CGHE Online. Second, nine individual members of CGHE Online were interviewed, in order to explore the findings from the first phase in more depth. Cresswell et al. (2003) recommend that when using mixed methods, analysis of the data gained using each method should occur separately. Integration of the results then takes place in the interpretation/discussion phase of the study, in order to gain the fullest picture of

identity as motivation. Therefore, the quantitative and qualitative results, though reported separately in Chapter 4, will now be used in conjunction.

FINDINGS –FACTORS MITIGATING MOTIVATION TO PARTICIPATE IN A PROFESSIONAL, DISTRIBUTED COMMUNITY OF PRACTICE

Overall, quantitative analysis of participation totals and scores from the Basic Psychological Needs Scales found no significant correlation between participation and satisfaction of the three basic needs for motivation. This is somewhat surprising, since the theoretical model outlined in Chapter 2 would seem to indicate that individuals who had low scores on the Basic Psychological Needs Scales would be less likely to participate in CGHE Online. However, in the qualitative interviews those with low basic needs scores had lower satisfaction with the community as a whole. These members had participated like they felt they were supposed to, but reported a lot of dissatisfaction with what they were getting out of the community.

While subset scores for competence and relatedness on the Basic Psychological Needs Scales were positively correlated with participation, those who felt their needs for autonomy were being met by CGHE Online were actually less likely to participate. This finding is counterintuitive to the basic precepts of SDT, which places heavy significance on the importance of autonomy in being motivated to perform an activity. The meaning of these findings is unclear, since few studies on communities of practice have directly addressed identity as a construct. Daubermann (2004) explored identity in communities of practice in terms of competence, relatedness, and autonomy, but did not specifically relate them to motivation. Additionally, Daubermann focused on identity formation in college students, rather than on identity in professional organizations. Most research on self determination theory has been done either in the psychology laboratory or in public

school settings; very little has been done in the situated, real-life work environment (Deci et al, 1989).

Most of the other findings from this study fell into the two broad categorizations alluded to by the research questions: the affordances and constraints of the social environment, and the involvement of the "nexus of multimembership" of an individual's identity. For each of the findings in the discussion that follows, implications for instructional designers are discussed, as well as suggestions for further research.

Affordances and Constraints of the Designed Community

Having a Shared Understanding of Purpose.

Wenger's conception of communities of practice indicates that having a strong shared sense of the primary purpose of the community is very important to the success of the community. This view has been upheld by subsequent research on distributed communities of practice (Eisenhart, 2000; Johnson, 2001; Paloff and Pratt, 1999). In the case of CGHE Online, members noted two basic purposes for the community: getting information, and forming relationships.

Getting the Latest Information

In CGHE Online, most members believed the primary purpose of the community was to act as a resource for them to draw "the latest" information from. This is the purpose for many distributed communities of practice. Clavio (2008) found that gathering information is the most cited reason for using collegiate sport message boards, while many individuals in Wasko and Faraj's (2000) study indicated that they mainly participated to get "tangible" returns such as access to expertise, useful information, and answers to specific questions. A number of the CGHE Online participants spoke of wanting to get the "latest thing" out there and believed that this community was a good

venue for that, since CGHE as an overall organization is seen by community members as being on the cutting edge of research-based reading instruction. The immediacy of the internet posting process seemed to facilitate this perception.

Having members agree that CGHE Online exists mainly to offer them relevant, up-to-date information likely contributes positively to members' basic need for feelings of competence by helping them better perform their professional duties. Having instant access to timely, relevant information from an authority such as CGHE seems to assist members in feeling that they are or are becoming experts in that field. Indeed, the majority of survey respondents in CGHE Online had high competency scores on the Basic Psychological Needs Scales, indicating that many felt their need for competency was being well met by this community.

However, there also seemed to be a perception by most interviewees that the community was something that they took from, rather than something that they were a contributor to. This sort of passive "transmission" of information could indicate a lack of autonomy on the part of the members. It could also indicate that members aren't building identities that cause them to feel competent enough to be contributors of information rather than just receivers. Only one interviewee explicitly stated that she saw herself as a giver of information to others within the community; this member had very high Basic Psychological Needs Scales scores in all three categories. If a member does not feel a requirement to contribute or does not see his or her contributions as necessary, that member may lack feelings of relatedness or competence in regards to the community.

Forming Relationships

Most of the interviewees in this study also mentioned building social relationships among professional peers as a primary purpose of CGHE Online. Unlike providing

information, which was regarded in a positive light by all interviewees, the purpose of building social relationships was seen as a positive by some but as a negative by others.

Most interviewees did note that they enjoyed forming connections with their peers from other universities in order to gain new perspectives, accrue new information, and even create working partnerships to pursue combined research agendas. Several members requested having additional ways to relate to each other built into the community, in the form of chat rooms and personal blogs. However, although two interviewees cited forming such relationships as their primary purpose in using CGHE Online, most mentioned it as a secondary consideration behind finding information. Wanting social interaction has been cited as participants' secondary purpose in using other distributed communities of practice as well (Clavio, 2008; Wasko & Faraj, 2000). According to the theory behind communities of practice, social interaction is necessary to the creation of the community's body of knowledge. As Bielaczyc and Collins (1999) noted, communities of practice are fostered around a culture of learning, where it is peer interaction that enables the negotiation of meaning and co-construction of both knowledge and the learner's identity as a community member. If many participants do not understand that interacting with peers in co-constructing knowledge is actually a primary purpose of the community, that lack of understanding could be a contributor to the current lack of interaction in CGHE Online.

While some members considered forming social relationships as an important but secondary purpose of CGHE Online, there were also several who believed the community's purpose was primarily social. However, most of these members were adamant about not being interested in participating in the social aspects themselves, because they just weren't "social people." Believing that the primary purpose of the community requires a personal skill that one doesn't have could certainly lead a person to

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feel that the community is asking for a competency that he or she does not possess. As Wenger (1998) says, "Our nonmembership shapes our identities through our confrontation with the unfamiliar." These two members were confronting an unfamiliar practice, and had to make a choice as to whether they joined or took a different path. They chose to not perform the "social duties," and took an "outsider" stance towards them in the interviews. This outcome is not necessarily negative or uncommon. Wenger (ibid) noted that a person may choose a marginalized identity, one that does not fully join the community and therefore does not compromise his or her sense of self. In terms of SDT, this trade-off could negatively affect members' feelings of competency and relatedness. Since they don't feel able to participate in the interactions of the community, they then feel less related to it. However, if these members believe they can still get some use out of the community without compromising their sense of self, this may better meet their needs for autonomy than if they were forced to participate in the social aspects. Wasko and Faraj (2000) also found users who said they were participating in order to exchange information but wouldn't use the forum to socialize or develop personal relationships. However, they discovered that these people didn't mean that they wouldn't have any interaction with other community members at all. Instead, they kept their interaction limited to strictly professional concerns rather than personal, which is what they were describing as "social". Since both of the CGHE interviewees who stated they weren't "social people" were in fact quite talkative, likeable, and gregarious in person, it's entirely possible that they weren't referring to actually lacking the skills necessary to engage in social interaction within the community. Rather, like those in Wasko and Faraj's study, they were simply lacking the will to engage in any purely personal interactions that did not center on professional goals.

Implications for Practice

    The finding that CGHE Online members see the main purpose of the site as providing them the latest information has several important implications for instructional designers who are seeking to build membership in distributed communities of practice. First, the belief that a community is a source of "the latest and greatest" information on a particular subject is of crucial importance to users, particularly in a professional capacity. One of the key benefits of web technology over more traditional methods of information transmission is its immediacy, and users will have more interest in a professional community that they feel is consistently offering them data that is relevant and new. However, the second implication for practice is that when users believe the "latest and greatest" is being given to them from an authority, they may not feel the need to contribute as much information themselves. Clavio (2008) also found no correlation between interactivity and information gathering, suggesting a user who is very active in terms of consuming information may not be equally active in terms of creating information. Since the success of communities of practice is predicated on ongoing contributions from a wide variety of individuals, it is important that community designers find ways to encourage members to feel urgency in contributing information, rather than just passively receiving it. One interviewee suggested that a mechanism for uploading member research be added to CGHE Online, as well as a mechanism for centering discussions on that research. This functionality would allow members to contribute more actively to the body of knowledge on the site, both through the research itself and through the targeted discussions surrounding the research. Providing members with opportunities to move from passive receivers to active contributors is very important in helping them build an identity of participation in the community.

Designers of distributed communities of practice should also ensure that members understand that social interaction is not just a secondary purpose of the community, but is in fact one of the primary mechanisms by which the community is built. Providing many ways in which these interactions can take place (i.e., discussion boards, chat rooms, and personal blogs) can give users multiple entry points. For those users who avoid interaction because they see it as "purely social" and therefore irrelevant, facilitating ways in which they can contribute to targeted discussions (i.e., those that surround a topic in which they have some professional interest and/or expertise) might help them to overcome their fear that they will be drawn into purely "personal" exchanges. It is important to provide ways of addressing the need for relatedness within the community, while not lessening feelings of autonomy through forcing purely personal interactions.

Perceptions of "Role" as a Community Member

Closely related to the issues of community purpose, as described above, are issues of members' "roles" within a community. Lave and Wenger (1991) had a conception of legitimate peripheral participation (LPP), in which new members of a community ("novices") participate in order to become more central members ("experts"). In order to have a healthy community of environment, different levels of participation should be invited. Experts in the community allow members on the periphery to gradually become more central, enabling all members of the community to be valued. Wasko and Faraj (2000) found that novices contribute to a community of practice chiefly by asking questions, often forcing experts to consider an issue in a different light. In this way, both novices and experts engage in the learning process. However, almost all members of CGHE Online reported being "seekers" of knowledge rather than "providers", categorizing themselves as novices rather than experts despite most of them having been productive members of their professional community for many years. "I guess I could be

considered an expert," said one, "but that's not really what I want. I want to learn from those who are truly experts!" Since many of these interviewees were among the oldest and most experienced of the community, it was difficult to imagine who they felt might provide more expertise. Two others reported feeling somewhat surprised that once they started participating in the community, they found that they had enough knowledge to be considered "experts." In terms of competence, this "surprise expertise" could be good: the community is definitely fulfilling the participants' need to feel competent. However, discovering that they were considered experts seemed to provoke a somewhat negative response in some interviewees. These members seemed disappointed that rather than primarily receiving new knowledge, they were probably going to be expected to provide knowledge to others instead. This perception could lead to a member feeling less related to the community's purpose as a whole, and less challenged in terms of building an identity within the community. Another reason several CGHE members gave for not offering their expertise to others was their belief that there were more than enough experts available already. This could indicate a lack of feelings of autonomy in regards to leading the community. These findings support Wasko and Faraj's (2000) assertion that when people have the knowledge to help others, they do not always choose to do so.

Some previous studies had found that a key barrier preventing members from participating in online community discussion boards was that members were afraid to post on the discussions, either of looking incompetent or from feeling that they hadn't "earned the right" to post (Ardichvili & Wentling, 2003; Hammond, 1998; Hammond, 1999; Wasko & Faraj, 2000). As was noted earlier, fear of failure is an indicator of introjected regulation (Deci & Ryan, 2001). However, no interviewees from CGHE Online reported fear of failure or a lack of competence in posting to the discussions.

Only one participant specifically noted that she spent her time offering to help others as an expert, and felt that she had a lot to give. Her stated motivation was aligned with studies that found evidence of experts wishing to "give back" and mentor within their community, due to a "moral obligation" (Ardichvili & Wentling, 2003; Wasko & Faraj, 2000). According to SDT, it is primarily an individual's perceptions of autonomy rather than competence that promotes volunteering and other pro-social behaviors (Gagne, 2003). Examples of this type of "organizational citizenship" (Gagne & Deci, 2005) for professional communities include helping co-workers, innovating, and serving on committees. In support of this viewpoint, this member had very high scores on all of the Basic Psychological Needs Scales, especially in terms of autonomy. It should be noted, however, that SDT allows for some other, less altruistic motivations for individuals to place themselves in the role of "expert." Ardichvili and Wentling (2003) discovered that some employees in their study participated because they felt the need to establish themselves as experts. Self-determination theory notes that individuals that are motivated by a need to demonstrate their ability in order to maintain feelings of worth are exhibiting ego involvement, which is a form of introjected regulation (Ryan & Deci, 2000).

Implications for Practice

Instructional designers who are hoping to serve the needs of a wide variety of individuals within a community should explicitly provide opportunities for all individuals to contribute. For example, CGHE Online seems to have a lot of people who are experts but who have no sure way of offering their expertise, unless they are specifically asked a question by someone else. Community facilitators can serve as intermediaries by locating individuals with expertise and putting them together with those who are seeking that particular expertise. Hopefully once an expert has seen that his or her input has been

useful to one member of the community, he or she might feel more autonomy towards making that expertise available to a wider section of the community.

Usability of Technical Affordances

Technical issues are barriers to participation that are most cited in studies of distributed communities of practice (Johnson, 2001; Ricketts, Wolfe, Norvelle, & Carpenter, 2000; Seufert, 2000). The affordances of online communities have been shown to mitigate feelings of relatedness, in ways that can be both positive and negative. This phenomenon may illustrate the finding by Borthick and Jones (2000) that virtual team environments such as online discussion communities require skills that do not come naturally to individuals. This indicates that the operation of technology needs to be explicitly communicated so that members are comfortable with the technology (Eisenhart, 2000). It was expected that difficulties with the technology in this community might have led to users having low satisfaction of their needs for competence ("I'm not good enough with the technology"), relatedness ("I can't be a part of this community because I don't understand how to use it"), and autonomy ("I'm being kept from using this community because of the intervening mechanism of the interface"). However, this did not appear to be the case, at least from the interviews conducted. Interviews with CGHE Online members uncovered very little discomfort or issues with the technical affordances of this distributed community of practice. Almost all of the members stated that they found CGHE Online very easy to use and navigate. Most also stated that they didn't have any problems with using "discussion board"-type interfaces in general. All seemed to be fairly tech-savvy and comfortable with discussing the interface of CGHE Online. It is possible that the interviewees' perception that this researcher was part of the CGHE Online team kept them from honestly addressing any technology issues; however, most of them were very honest about other issues they had with the site.

Implications for Practice

For designers, it should be noted that the CGHE Online discussion board interface uses a "threaded" view, in which users can tell exactly which previous comment a new comment is addressed to, rather than a sequential view, in which comments are simply posted one after the other. CGHE Online also used a very minimalist approach in its interface design, eschewing any complicated interface metaphors. Since interviewees reported having mostly positive experiences with the CGHE Online interface, designers may wish to follow these particular design conventions.

Perceptions of Involvement of the Overseeing Organization

Many of the studies of SDT in professional environments pay close attention to workers' perceived autonomy in regards to either the organization in which they work or the supervisor that they work directly under (Deci et al., 1989; Deci et al., 2001; Baard et al., 2004). Generally, when people in work organizations experience satisfaction of their basic needs for competency, autonomy, and relatedness in the workplace, they will have greater task engagement and psychological well-being. Organizational support of autonomy is a key factor in meeting those needs (Deci et al., 2001). Contrary to this researcher's expectations, all interviewees reported overwhelmingly positive feelings towards CGHE as an organization. When asked questions that addressed whether CGHE Online allowed them to direct their own path within the community, most interviewees stated that they felt free to do so. This positivity could be due to the fact that this researcher was seen to be affiliated with CGHE, and interviewees knew that the results of this study would be given to CGHE. However, several stated that they felt that CGHE was always interested in "honest feedback." Others noted that they never felt any pressure from CGHE to complete activities that didn't interest them. The fact that CGHE Online is a part of a larger entity that has numerous opportunities for meeting face-to-face

each year may contribute a lot to the positive perceptions of CGHE. Distributed communities where the members also knew each other from face-to-face interaction exhibited trust and good relations among members (Ardichvili & Wentling, 2003; Johnson, 2001). This belief in the benevolence of CGHE as a sponsoring organization is important for fulfilling members' basic needs for autonomy. Wasko and Faraj (2000) found that if knowledge is seen as an object belonging to a private organization or individual, the tendency is to act out of self-interest, or "free ride." However, if knowledge is seen as belonging to the community, people behave altruistically and "pro-socially" by contributing to the welfare of others without the apparent need for compensation (ibid).

Implications for Practice

It should be interesting for instructional designers to learn that, rather than feeling constrained or surveiled by CGHE as the sponsoring organization, some users requested a little more interference by CGHE rather than less. These members suggested that CGHE should require participants to read the responses of others as part of their duties within the environment, a view upheld by the work of Oliver and Herrington (2000). However, community facilitators must walk a fine line between being involved and being over-involved. More importantly, creating an environment where the sponsoring organization has such positive ties with its members is an important goal for any community designer. One of the positives reported by CGHE members was that the organization gave users many opportunities to provide their input on the community itself; accordingly, designers should ensure that there are a variety of mechanisms to allow members to give feedback and direction.

Paying Members to Participate

Like a number of professional distributed communities of practice, CGHE Online initially paid its members a small stipend for participating each month. Of those interviewed, more than half had received the stipend; those that had were divided on whether it affected their participation or not. Only two of the members interviewed said they would definitely not have initially participated without the stipend, although both did continue participating a little after the stipend ended. Both felt that since it was professional activities that they were participating in, they should be paid for their time like a professional. These interviewees had high participation totals but medium-to-low scores on the Basic Psychological Needs scales, and both had very prominent feelings of not being related to the community in general. However, others said they barely remembered the stipend at all, and believed it made no difference in their decision to participate. This supports Wasko and Faraj's (2000) assertion that "people often behave altruistically and pro-socially, contributing to the welfare of others without apparent compensation." According to SDT, these members may have integrated regulation in regards to the activity of participating in CGHE Online discussions. They don't require external rewards to prompt their participation because they feel very related to the community and its goals, feel very competent in performing the activities required to be a part of the community, and feel a high degree of freedom in their choice to participate. Two of these said they would have participated even if they weren't paid, because they liked the interactions. Both of these members had high participation and Basic Needs scores. They may have been displaying truly intrinsic motivation, where an individual engages in an activity because he or she finds the activity itself enjoyable.

Despite these findings from the interview data, however, it should be noted that contributions to CGHE Online as a whole did decline dramatically once the stipend was

no longer paid. This would seem to underscore the assertion that some extrinsic rewards promote temporary compliance but are detrimental long-term (Ryan & Deci, 2000; Wasko & Faraj, 2000). While most of those interviewed for this study felt that the stipend had no impact in either direction on their participation, many of the other participants may have felt de-motivated by its removal that they stopped participating.

Implications for Practice

For designers trying to decide whether to offer monetary incentives for participating in a distributed community of practice, the results of this study don't offer a clear recommendation. If a community is built around a professional activity, some users may expect to be paid to participate, as they would for any other professional activity. However, using a paid incentive initially may cause users to become oriented to the extrinsic motivator, and thus quit participating when that motivator is removed. Those who enjoy participating in professional discussions boards are going to do so regardless of a stipend, but there is every indication that these types of users are not prevalent. Building in supports for maximum fulfillment of users' needs for competence, relatedness, and autonomy may bring about SDT's ultimate form of extrinsic motivation, that of integrated regulation, for other users.

Issues   with   Other   Community
Members

Some distributed communities of practice have found that personal issues between community members have led to lowered participation. Wasko and Faraj (2000) found that some users were discouraged from participating due to their dislike of other members of the community, particularly those who they felt had "big egos." LeBaron, Pulkkinen, and Scollin (2000) found that cultural differences could sometimes account for issues of this sort, creating barriers to participation. In CGHE Online, however, only

two interviewees mentioned having personal issues with other members of the online community. Both were concerned with their perceptions that other users were dominating a discussion; one mentioned hating "rambling" and the other noted "tuning out" because someone was "hogging a discussion". In terms of this issue preventing the community from meeting these members' basic needs for motivation, any personal differences with other community members can lead to a lack of relatedness within that community,. Additionally, the language these two members used to describe the offending behavior could indicate an autonomy issue; it appears that these members have difficulties with another member taking control of the discussion, thus taking control of participating away from these members.

Implications for Practice

These interpersonal issues occur in almost any online community, and would be nearly impossible for an instructional designer to completely plan for or eliminate. However, they do provide a major barrier for a user identifying with a community. A user involved in a negative interaction may think, "If this is how you're supposed to act in this community, then I want no part of it." One possible solution to such issues is to ensure that the community is populated with knowledgeable facilitators (Bielaczyc & Collins, 1999; Johnston, 2001; Paloff & Pratt, 1999; Squire & Johnson, 2000). A good facilitator can often lead discussions in a more positive direction, away from personal attacks. He or she can also gently wrest control from those attempting to completely dominate a discussion.

Suggestions for Future Research

Identity-building Processes for Experts

While the literature on communities of practice deals extensively with how novices create their identity by becoming more expert, it doesn't address how experts'

identity work prompts their continued involvement in the community. Are identity processes the same for those who are already considered expert, but just built more incrementally? Are experts' needs for competence, relatedness, and autonomy somehow different from those of novices? Other than the documented desire to "give back" to a community, how are experts motivated? There are no extant studies that address the challenge of finding ways to plug inactive experts into more prominent roles in the community.

Paying Members to Participate

Many studies on communities of practice do not address the fact that they may or may not be paying their participants, but SDT clearly indicates that there are consequences for motivation when using external incentives that must at least be acknowledged and considered. SDT and most motivational research indicate that offering extrinsic rewards such as monetary stipends will actually lead to participants only performing an activity if they are receiving a reward for it. But in the case of a community of practice that focuses on professional activities, most participants (like most of those in this study) aren't going to enjoy participating in the knowledge-building activities strictly for the sake of the activities themselves. The term "professional" already has connotations of being paid. If participating in a community of practice is another professional activity, is it completely counterproductive to receive payment as some incentive for that activity? Research is needed on these issues in order to better determine the impact of incentives on participation in professional distributed communities of practice.

Interactions with Other Community Members

Little research exists on the impact of interpersonal dynamics between peers on fulfilling an individual's basic needs for motivation. It is easy to see that competence,

relatedness, and autonomy could all be affected by adverse interactions with other members within a community, but a thorough study of the effect would provide a much better understanding of how to mitigate such interactions.

Involvement of Individual Identity

The second research question in this study examined the role of what Wenger refers to as the "nexus of multimembership" in mitigating motivation to participate in a professional distributed community of practice. An individual's identity in a given community is only a part of their overall identity, which is composed of all of the identities that have accrued in other communities that the individual has been a part of throughout his or her life. According to Wenger, identity encompasses what the community pays attention to and values, as well as who you are in the eyes of the community. He describes identity is not just what we think about ourselves, or just what others think about us, but a "layering of events of participation and reification by which our experience and its social interpretation inform each other".

The Age of the Participant

One of the key unanticipated findings in this study was the impact of age on basic needs satisfaction. By correlating scores from the Basic Psychological Needs Scales with demographic data, it was found that participants in the oldest age group (60+) felt that their basic needs for motivation, especially those of autonomy and competence, were being met much less within CGHE Online than did other age groups. The differences in these two areas were statistically significant. Data from the three interviewees who fell into the 60+ age grouping was carefully scanned in order to better understand any differences between the age groups that might account this finding.

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A major difference uncovered in this study was that all three interviewees in this age group were the only ones who frankly stated that they felt they should be paid for participating in CGHE Online. All three believed that if they were participating in a professional activity, they should be paid for it like a professional. Many of the younger members of the community, on the other hand, seemed to see participating in CGHE Online as part of their normal career development activities, activities that they don't necessarily get paid for but that will further their professional endeavors. Would offering an external reward for participating increase older users' sense of autonomy within the community? Most studies based on SDT theory have found that the reverse would be true. Would being compensated for participation raise levels of competence and relatedness?

A second difference found between age groups was that all three of the 60+ participants said that while their primary purpose in using the community was to get information, they believed the intended purpose of the community was social networking. Two of these also expressed an extreme dislike of the "social aspects" of the site. As was mentioned early in this chapter, a user's belief that the primary purpose of a site is different from his or her intended purpose could lead to feelings of unrelatedness. Also, a user's lack of skill in participating in the social activities inherent in the site could lead to feelings of incompetence in terms of those activities. Two of the members of this age group also brought up numerous examples of how their backgrounds made them different from not just the users on the site, but also different from the rest of their coworkers at their place of employment. This perception could feed feelings of unrelatedness as well.

Two interviewees from the 60+ age group mentioned having difficulty in using CGHE Online because of problems with sifting through all the discussion threads. Wasko and Faraj (2000) found that in large communities, participants may have trouble

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separating the information that meets their needs from the rest of the messages. However, these were the only two members interviewed in this study to report having a lot of frustration with not being able to quickly locate the discussion threads that were of particular interest to them. This frustration could be hampering the ability of the community to meet the basic need for competence for this older age group.

Implications for Practice

Since there is so little research surrounding the notion that age might have a negative effect on motivation to participate in distributed communities of practice, it is difficult to suggest concrete solutions for instructional designers. However, the three older interviewees made their own suggestions pertaining to these issues that designers might wish to follow. Primarily, they felt they should be compensated for the time they spent in the community. Secondly, they were reluctant to participate in any activities that weren't viewed as strictly professional; community designers must find a way to engage older participants in knowledge construction activities that aren't seen as "purely social." Additionally, they were uncomfortable sorting through all of the multiple threads, and wanted a way to sort them by topic, so that they could quickly ignore the discussions that didn't address their interests. Therefore, community facilitators may need to apply some "tagging" to discussion topics to assist those who want rapid access to certain topics.

Member Perceptions that the Site Wasn't Intended for Them Personally

In both self-determination theory and in Wenger's theoretical model of communities of practice, feeling related to the community and wanting to become a part of its practices is crucial in developing an identity of participation within that community. James and Greenberg (1989) found that identifying with a group, which facilitates the internalization of the group values, led to enhanced performance. Unfortunately, seven of the nine participants interviewed for this study spontaneously mentioned that they felt

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that they were "different" from the most of the participants on CGHE Online. These differences took many forms. One felt that her professional interests were unlike those of the general population of members. As was noted previously, three felt that most of the community was interested primarily in social interaction, while they weren't interested in those pursuits at all. One loved social interaction and felt that most of the others in the community didn't value it as much as she did. Several members felt that the discussions just didn't pertain to their interests, or have value to them as professionals. Two members without PhDs felt intimidated because of their lack of degree. Two other members reported that their East Coast backgrounds made their interactions different from those of the rest of the members of the community. These small differences are in no way unusual; an expectation that a community of professors from many different institutions would be a homogenized group would be ludicrous. However, the number of interviewees bringing up these differences in response to questions about their lack of participation in this particular distributed community of practice makes this issue worth examining. In terms of the framework built on the theories of Wenger and SDT, these users are clearly experiencing a lack of relatedness to the community as a whole. Their reasons for these feelings of difference are varied, but the basic state of estrangement from the community is the same. Wenger suggests that participating in the activities of the community is the glue that will bind an individual to the rest of the group. But the question remains: if relatedness is part of what prompts motivation towards an activity, and a person feels unrelated to the community surrounding that activity, how do you get them to participate in the activity in order to facilitate feeling more related?

Implications for Practice

Clearly it is important for members of online communities of practice to feel high levels of relatedness to the community, particularly in the case of communities where

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members do not meet face-to-face. Emphasizing the similarities of members, and finding ways to draw attention to the main purpose of the community, can assist designers in creating a community that fosters high levels of relatedness among its constituents.

Frustration at a Lack of Response from Other Community Members

In another unanticipated finding that seemed to have a heavy occurrence within CGHE Online, seven interviewees reported that they felt disappointment and even a reluctance to continue participating when others within the community didn't respond to their posts. As one said, "I felt like if I added something, it maybe wasn't validated or anything. And so I just quit!" As Preece et al. (2004) noted, "No one wants to be part of a conversation where no one says anything. Such online communities cannot survive because there is so much happening on the Internet that people do not return to silent communities." Another interviewee noted that when she did get responses to her postings, it encouraged her to participate even more. In examining this finding through the lens of meeting the basic needs for motivation, there are multiple possible explanations. Posting a question or comment and then not having it responded to may make a member feel that they were not competent enough to participate in the activities of their community. As an identity process, this is an example of judging oneself in light of how others are judging you. A member might initially feel very competent in the practices of the community, but if they feel that others are not engaging with them because of their professional shortcomings, then this might lead to an actual lowering of feelings of competence on their part. A second possibility is that not being responded to may cause members to feel like their interests or needs are not related to those of the rest of the community. If a member posts a question and then doesn't receive an answer to it, it would be very easy to believe that other members of the community don't care to respond because they don't feel the question is relevant to their own particular interests.

This could then cause the member to question his or her own relatedness to the community as a whole.

Implications for Practice

Instructional designers of distributed communities of practice should understand that messages left unanswered can have bad effects on user participation. Good facilitation can ensure that every message has some sort of response. Additionally, a facilitator could use his or her knowledge of the community members in order to locate a latent expert within the community membership and request that he or she respond to the message. Facilitators can also gently coach community members, both novice and experts, on how to properly respond to messages on a discussion board. For example, Hammond (1999, 1998) found that short, superficial messages create annoyance in community members while long messages can cause cognitive processing problems for some readers.

Opportunities for Building a Professional Identity with a Cohort Group

All of the participants in CGHE Online work at institutions of higher education. Some of these participants have large groups of fellow faculty members in their departments and some do not. Having a close community of fellow coworkers can lead to positive feelings of competence, relatedness, and autonomy. Too much face-to-face access, on the other hand, can render the online community moot, as membership in a tight-knit face-to-face group sometimes makes online community membership redundant (Wasko & Faraj, 2000). Of the nine members of CGHE Online interviewed for this study, seven indicated that they felt like they didn't have a close cohort at their institution, and were glad that CGHE offers an alternative professional cohort for them. This finding is probably somewhat negative for the interviewees, since most expressed a wish that they did in fact have a more interactive relationship with the other educators that they worked

with at their employing institutions. However, CGHE Online could fill a very necessary role for those educators who say that they don't have a strong cohort at their workplace, leading to a stronger fulfillment of members' basic needs for relatedness to this community.

Implications for Practice

For designers, this finding indicates a strong niche that distributed communities of practice can fill. For those who are isolated from fellow members of their profession that they can "bounce ideas off of," whether by geography or just by personal differences, an online community such as CGHE Online can be an excellent provider of a "virtual cohort." Explicitly marketing the community to potential members in this way could help prompt initial and ongoing participation in such a distributed community.

Control Exercised by Employing Institutions

Autonomy is a key concern for identity and motivation in communities of practice. When an organization is seen by its members as "imposing excessive attention and high expectations" (Eisenhart, 2000), feelings of autonomy have been found to be lowered. People are less likely to use collaborative technologies to share information if the information they're imparting is perceived to be owned by the organization (Wasko & Faraj, 2000). Deci et al. (1989) found that "when employees were very concerned about extrinsic elements such as pay, benefits, and security, and about tension in the corporate climate, immediate supervisory issues were not as important as we had predicted. Managers' support for self-determination is apparently not enough to buffer employees from major problems that emerge from higher levels in the organizations, especially when these problems threaten pay and security." In interviewing participants for this study, this researcher was alert for signs that CGHE was perceived as an institution that was not supportive of member autonomy. Instead, several members noted that their

participation had been curtailed by these types of concerns with their employing institution, rather than CGHE. One member said that her employing institution didn't want her to participate because they didn't agree with the philosophies of the university that sponsors CGHE. She had argued with them and her participation had been allowed, but she still felt somewhat "undercover" in her participation with CGHE. The second member had an incident with her employing institution where she had received some negative feedback for sharing a lesson plan, which the institution considered its intellectual property. Both of these members expressed a strong desire to participate in CGHE Online, but felt like they couldn't as fully as they would have liked to out of fear of offending their employer. This type of behavior by employing institutions could obviously lead to low member levels of autonomy in regards to CGHE Online, although CGHE Online has no say in or control over an institutions' feelings and actions towards CGHE.

Implications for Practice

Instructional designers who are developing communities of practice are probably convinced of the benefits of such communities for participants, and may expect participant employers to recognize the benign nature of the enterprise. However, this study has shown that to be a faulty assumption. Perhaps if instructional designers can clearly communicate to participant employers the benefits and intentions behind using a distributed community of practice to share resources and practices, those employers might be more favorably disposed towards their employers participating in such an activity. However, it is probably too optimistic to think that political infighting and organizational distrust can be overcome purely by communication.

Time Taken Up by Other Communities

Of the research studies that examine why users fail to participate in distributed communities of practice, few explicitly mention "lack of time" as a reason. Wasko and Faraj (2000) noted that participants cited time as a factor in their decision to participate in such a community. However, they didn't list how many comments were made in regards to time and only included one sentence referencing it in their study. For CGHE Online, "lack of time" was the dominant theme in interviewees' discussions of why they didn't participate more in the community. All interviewees said they just didn't have the time to participate; most referred to this lack of time on multiple occasions within the interview. Many interviewees cited their extremely heavy workload as being the primary demand on their time, although a few others referenced personal commitments.

If one concedes that "lack of time" is not just an incidental, unimportant excuse by users but is instead an important determinant of motivation to participate in a distributed community of practice, then one must examine the meaning of "lack of time" in reference to how it mitigates feelings of competence, relatedness and/or autonomy towards the activities of the community. It is possible that "lack of time" is mainly an autonomy issue. Certainly users indicated that they felt controlled by the demands on their time. Many expressed a desire to participate in CGHE Online, but said that time just didn't allow them to. A lot of the language used by participants in reference to time indicated that they felt like they didn't have much control over it, and didn't feel free to use it in the way that they wanted to. It's also possible that "lack of time" is a competence issue. Most people will take the time to participate in activities that they feel will give them a lot of value for the use of their time. Although many users said they thought participating in CGHE Online was a valuable enterprise, they may not have felt that

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doing so would have added to their competency to such a degree that it was worth expending their time on.

Implications for Practice

Instructional designers must recognize that getting value for time expended is an important concern for busy professionals. Making users waste their time on such as complicated interfaces and cute metaphors will only produce frustration in regards to professional activities. Creating an interface and experience that will enable them to access and interact with the community in the most expeditious manner is one way of addressing the "lack of time" issue. Another is to concentrate on making sure the knowledge and activities that the community is focused on are worth the busy user's time. As a developer, are you adding valuable tools and information to help build members' professional identities, or are you just adding another demand on their time?

Suggestions for Future Research

Identity and Motivation for Older Community Members

Part of the difficulty in addressing the problem of motivation for older professionals is that there is no extant literature pinpointing causes for this issue. Most research on age and motivation centers on adolescents, as does any research on identity building. Very little of the large body of theory and studies surrounding identity construction address the ongoing practice of such construction in older individuals. The limited literature on professional communities of practice does not address age as a factor in any way. It's possible that some of the problems found in this study are generational, raising questions such as: (1) Are identity-building processes different at different ages? Does the relative importance of certain basic needs over others change as people age? (2) Would distributed communities of practice be more likely to gain the participation, and

therefore the expertise, of users in the 60+ age group if they offered stipends? If so, why is the stipend so critically important to this age group but not to younger generations? (3) Are older users significantly less interested in forming new social relationships in their communities of practice, and if so, why? (4) Why are these seemingly tech-savvy older professionals less comfortable with screening online content? Without focused research on issues of age and the meeting of basic needs, it's impossible to devise targeted solutions. However, as the Baby Boomer generation reaches this apparently crucial age group, and with more and more older professionals putting off retirement, finding answers to these questions becomes critical.

Lack of Response

Research is needed to more directly tie identity processes to participation in distributed communities of practice. How are competence, relatedness, and autonomy directly affected by "silent" communities? This study's preliminary finding that users feel negatively affected by a lack of responses on the part of their community can be used to guide deeper explorations into the theoretical causes of this phenomenon.

Presence of a Workplace Cohort

Several studies have been done on the utility of having face-to-face meetings for members of distributed communities of practice. However, there are no studies on the effect of a strong face-to-face cohort on participation in distributed communities of practice that are separate from members' employing institution. Since many professionals these days belong to distributed communities that contribute to their professional development but are not part of or sponsored by their "main job," it is important to find out how the presence or absence of such a cohort relates to member participation.

Interference by Employing Institutions

Little to no research exists on how participation in professional distributed communities of practice is impacted by the interference or demands of participants' employers. For many distributed communities, this may not be an issue, as they are probably seen by employers as neutral sources of information. But for those distributed communities, like CGHE, that may have political or ideological conflicts with a participant's employers, the interplay of those dynamics and the effects on participant autonomy would certainly be interesting to explore.

Lack of Time

Rather than shrugging off "lack of time" as an unaddressable concern, future researchers could examine the decision-making behind how participants allocate their time. Why do some activities receive an individual's time while others don't? What makes one activity more valuable than another? What factors control the decision-making process, specifically in regards to competency, relatedness, and autonomy?

CONCLUSION

In order to assist instructional designers in their efforts to design and develop strong, nurturing distributed communities of practice, this study examined a professional community of educators using a theoretical framework that focused on identity processes as the seat of motivation to participate in such a community. This framework blended the seminal work of Wenger on communities of practice with self-determination theory, which offers a potential understanding of how motivation occurs in a social environment. Almost all studies that examine communities of practice use Wenger's work as their theoretical underpinning, but few have offered any understanding of how Wenger's conception of identity construction as motivation for participation actually works. SDT

says that motivation to participate in an activity is produced when an individual's levels of competence, relatedness, and autonomy towards that activity are high. However, very few studies on communities of practice have utilized SDT. In the framework used for this study, the community environment combined with an individual's identity within and without the community determine how competent, related, and autonomous he or she feels in relation to the community practices; these feelings are then what prompt that individual to participate in the activities of the community. The research questions derived from this framework focused specifically on how the affordances and constraints of the community affected building an "identity of participation," as well as how members' identities in other communities played a role. These questions were addressed using a mixed-methods strategy. Quantitative data gave a partial picture of what motivation (in terms of levels of competence, relatedness, autonomy, and the resultant participation) looked like within this community of professional educators. Those studying other communities could use the same methodology to derive a picture of a community's motivation according to SDT, which would be interesting in terms of comparison. The qualitative phase of this study gave a much fuller picture of what competence, autonomy, and relatedness look like in this real-world setting, since most of the studies of SDT were done in a lab setting. Utilizing this dual methodology produced a much richer picture of what motivation looks like in this distributed community of practice.

One of the key findings of this study was that this community was not failing due to technical issues experienced by its members. Many of the studies that examine participation in distributed communities of practice focus primarily on technical barriers, such as interface or the relative computer skills of its users. However, the members of this particular community were mostly computer-savvy and had few problems with the

simple interface. For this reason, it was very important to have the theoretical framework for motivation in place, in order to examine deeper issues that might be affecting motivation to participate.

Wenger places a great deal of emphasis on newcomers to a community of practice becoming motivated by building an identity through being mentored by those who are experts within the community. However, Wenger doesn't expand on how experts continue to build an identity that encourages participation. The community in this study contained many experts, in terms of both years of experience and in knowledge. However, few of these experts felt motivated to share their knowledge with other members. SDT indicates that experts as well as novices need to have their needs for competence, autonomy, and relatedness met in order to produce motivation. Further research is needed in how experts are motivated in order to better facilitate expert experience within a distributed community of practice.

Wenger believed that individuals would be motivated to participate in a community where they were actively involved in the knowledge-building process. This study found that participants in this community mostly saw its purpose as transmitting knowledge from an authoritative source to the more passive participants. This "transmission" viewpoint of the community activities is antithetical to Wenger's theories, and is problematic for SDT as well, since knowledge handed down from an authority would tend to lessen users' sense of autonomy. Instructional designers seeking to facilitate a vibrant distributed community of practice should do their utmost to promote the community as an instrument for mutual knowledge-building between members and any overseeing organization. Some of the other findings in the study indicated areas that can support this goal: making sure any postings are quickly responded to, being explicit

about the purpose of the community, and ensuring that all members feel that their diverse identities and ideas are welcome within the community.

This study included questions for interviews designed to determine members' feelings towards the organizations directing their participation in the community. This direction was based on SDT's concern that environments must include support for autonomy in order to maximize motivation. Most research in SDT involving work-related environments focused on how organizations could be de-motivating forces for employees. However, this study found that participants felt very positive and autonomous in regards to this community's overseeing organization. On the other hand, several felt a lack of autonomy in regards to their employing institutions, due to their employer not wishing them to fully participate in the community. Additionally, all interviewees in the study cited their lack of participation as being due to a severe shortage of time, which was attributed primarily to employer demands. Lack of time to participate in the community is an autonomy issue in that users didn't feel that they had control over their time. Although there is little that community designers can do to mitigate employer demands, making sure that the community interface is simple enough that it ensures maximum contribution with minimal time expenditure is one area they can address in order to facilitate a better community.

Finally, the focus on identity that this study employed uncovered a surprising finding within this community: the oldest members of the community (60+ years of age, who were also the majority age group) were the least motivated to participate, in terms of how their needs for competence, autonomy, and relatedness were being met. Although it might be tempting to blame this issue on the poor technical skills of older members, these users reported the same computer usage and skills as other community members, and interviews didn't uncover any fear or discomfort with the technology employed by this

distributed community of practice. The older users interviewed for this study did note that they preferred to be seekers of knowledge, rather than providers. Even though they had more knowledge and experience in their field than the other age groups, they were not interested in being mentors within the community. According to SDT, autonomy is what promotes volunteer activities such as mentoring (Gagne, 2003); it is unsurprising, then, that autonomy is significantly low for this age group. Members of the 60+ age group did say that they enjoyed forming professional relationships with peers within the community, but didn't necessarily want to be forced into activities that were purely "social." Since this finding of the important effect of age on motivation was an entirely unanticipated outcome, this study was unable to explore the issue in enough depth to provide anything other than a cursory explanation of this phenomenon. As none of the extant literature offers any understanding of identity construction/motivation in older individuals, there is a wide gap to be filled in the research in this area. One of the key concerns for most knowledge management initiatives is capturing and retaining the tacit information of retiring employees; understanding how to motivate older members to participate in the practices of the community is therefore a primary concern.

APPENDIX A: BASIC PSYCHOLOGICAL NEEDS SCALES

Downloaded from Deci & Ryan's Self Determination Theory website
(http://www.psych.rochester.edu/SDT/measures/needs_scl.html)
* * * * * * * * * * * *

BASIC NEED SATISFACTION AT WORK SCALE (MODIFIED BY THE AUTHOR)

When I Am on CGHE Online

The following questions concern your feelings about CGHE Online. (This concerns the entire that CGHE Online has been in existence, not just its current state.) Please indicate how true each of the following statement is for you given your experiences in CGHE Online. Remember that no one at the Vaughn Gross Center for Reading and Language Arts will know how you, as an individual, responded to the questions. Please use the following scale in responding to the items.

1	2	3	4	5	6	7
not at all true			somewhat true			very true

1. I feel like I can make a lot of inputs to deciding how I participate in CGHE Online.
2. I really like the people I interact with on CGHE Online.
3. I do not feel very competent when I am on CGHE Online.
4. People on CGHE Online tell me I am good at what I do.
5. I feel pressured to participate in CGHE Online.
6. I get along with people on CGHE Online.
7. I don't interact with others on CGHE Online.
8. I am free to express my ideas and opinions on CGHE Online.
9. I consider the people on CGHE Online to be my friends.
10. I have been able to learn interesting new skills through CGHE Online.
11. When I am on CGHE Online, I have to do what I am told.
12. Most days I feel a sense of accomplishment from using CGHE Online.
13. My feelings are taken into consideration at CGHE Online.
14. I do not get much of a chance to show how capable I am on CGHE Online.
15. People on CGHE Online care about me.
16. There are not many people on CGHE Online that I am close to.
17. I feel like I can pretty much be myself on CGHE Online.

18. The people on CGHE Online do not seem to like me much.
19. When I am on CGHE Online I often do not feel very capable.
20. There is not much opportunity for me to decide for myself what to do on CGHE Online.
21. People on CGHE Online are pretty friendly towards me.

22.   I feel like my contributions to CGHE Online are valuable to others.

Scoring Information. Form three subscale scores by averaging item responses for each subscale after reverse scoring the items that were worded in the negative direction. Specifically, any item that has (R) after it in the code below should be reverse scored by subtracting the person's response from 8.   The subscales are:

    Autonomy: 1, 5(R), 8, 11(R), 13, 17, 20(R)

    Competence: 3(R), 4, 10, 12, 14(R), 19(R)

    Relatedness: 2, 6, 7(R), 9, 15, 16(R), 18(R), 21

APPENDIX B: SURVEY QUESTIONS

1) What is your age?

☐ 20-29 ☐ 30-39 ☐ 40-49 ☐ 50-59 ☐ 60+

2) What is your race?

☐ African-American

☐ Asian/Pacific Islander

☐ Hispanic

☐ Native American

☐ White

☐ Other

3) Are you Male or Female?

◉ Male ☐ Female

4) How long have you been an educator at the collegiate level?

☐ 0-1 years ☐ 1-5 years ☐ 5-10 years ☐ 10+ years

4) In your profession, what do you consider your level of expertise to be?

☐ Highly proficient ☐ Somewhat proficient ☐ Not proficient

5) What do you consider your level of computer-related expertise to be?

☐ Highly proficient ☐ Somewhat proficient ☐ Not proficient

6) What experience, outside of CGHE Online, do you have with the following technology:

Discussion boards: ☐ Lots of experience ☐ Some experience ☐ No experience

Chat rooms: ☐ Lots of experience ☐ Some experience ☐ No experience

ListServs: ☐ Lots of experience ☐ Some experience ☐ No experience

Online gaming: ☐ Lots of experience ☐ Some experience ☐ No experience

APPENDIX C: SEMI-STRUCTURED INTERVIEW QUESTIONS

1. When did you initially participate in CGHE Online?
2. How did your participation change over time?
3. Did you receive the stipend?
4. What did you think the purpose of CGHE Online was?
5. What purpose did it serve for you?
6. What was your role in the community: someone who primarily helped answer the questions of others (expert) or someone who was seeking answers (novice)? What were your interactions like?
7. How comfortable did you feel with the interface, i.e., the buttons and navigation and look-and-feel?
8. Are you a member of other online communities?
9. Do you have a strong face-to-face cohort at your institution? Do you prefer face-to-face or online communication?
10. How much input do you feel like you had over the content and direction of CGHE Online?
11. How comfortable did you feel with posting questions and answers?
12. Is there anything CGHE Online could improve on that would cause you to participate more in the community?

Appendix D: Explanatory paragraphs proceeding online survey

This survey is being conducted by Haley Steele, doctoral student in the College of Education of The University of Texas at Austin.

The purpose of this study is to examine motivation for participating in CGHE Online. Your participation in the survey will contribute to a better understanding of how instructional designers can design online communities of practice in ways that best meet the needs of participants. We estimate that it will take about 5 minutes of your time to complete the questionnaire.

Risks to participants are considered minimal. There will be no costs for participating, nor will you benefit from participating. Identification numbers associated with email addresses will be kept during the data collection phase for tracking purposes only. A limited number of research team members will have access to the data during data collection, but NO CGHE MEMBERS OR ADMINISTRATORS WILL HAVE ACCESS TO THE RAW DATA. Any personally identifiable information that was retained will be completely stripped and deleted from any documentation before analysis and publication of the data.

You may be invited to participate in a follow-up interview because of your responses to this survey. The interview, lasting no longer than 45 minutes, may be conducted either in person or over the phone. You will not have to answer any question you do not wish to answer. There are no anticipated risks, compensation or other direct benefits to you as a participant in this interview. You are free to withdraw your consent to participate and may discontinue your participation in the interview at any time without consequence. With your permission I would like to audiotape this interview. I will be the only person to have access to the tape, which I will personally transcribe, removing any

personal identifiers during transcription process. The tape will then be erased. If requested, I can provide you will a copy of the transcribed interview. Your identity will be kept confidential to the extent provided by law, and any personally identifiable information that was retained will be completely stripped and deleted from any documentation before analysis and publication of the data.

Your participation in this survey is voluntary. You may decline to answer any question and you have the right to withdraw from participation at any time without penalty. If you wish to withdraw from the study or have any questions, contact the investigator listed above.

If you have any questions or would like us to email another person for your institution or update your email address, please call Haley Steele at (501) 282-6774 or send an email to hsteele@mail.utexas.edu . You may also request a hard copy of the survey from the contact information above.

This study has been reviewed and approved by The University of Texas at Austin Institutional Review Board. If you have questions about your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact - anonymously, if you wish - the Institutional Review Board by phone at (512) 471-8871 or email at orsc@uts.cc.utexas.edu.

Appendix E: Distribution of the four Basic Needs Scores
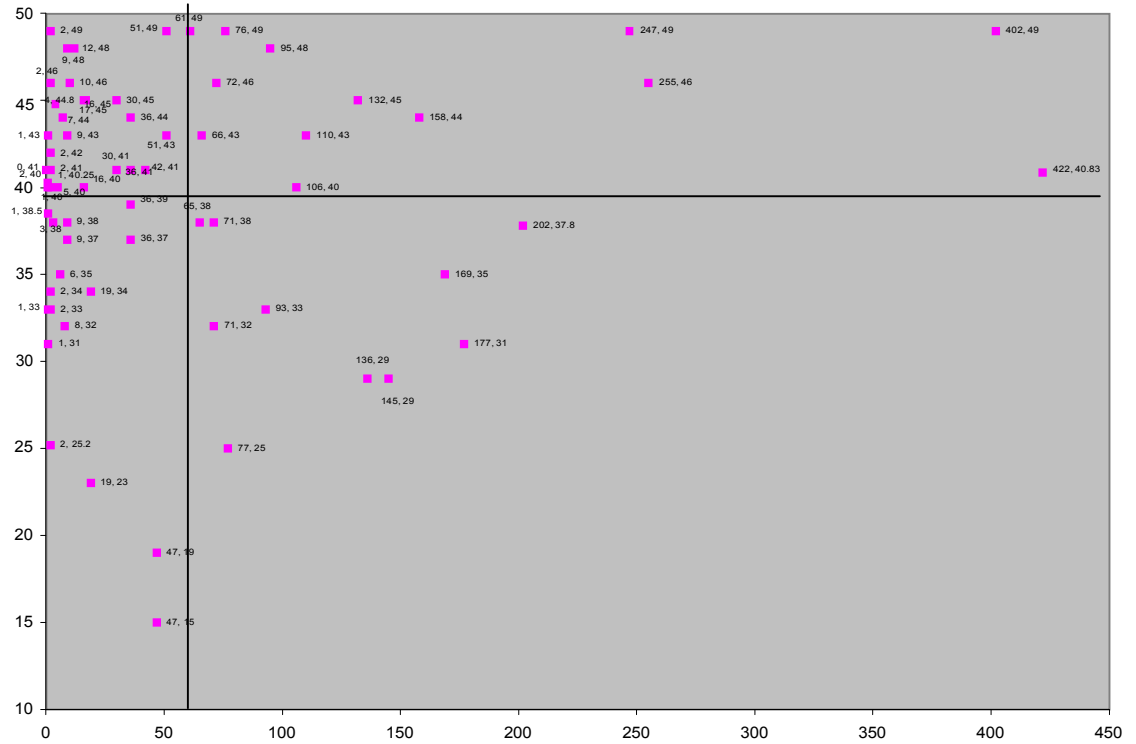
Chart 1: Autonomy and participation 1
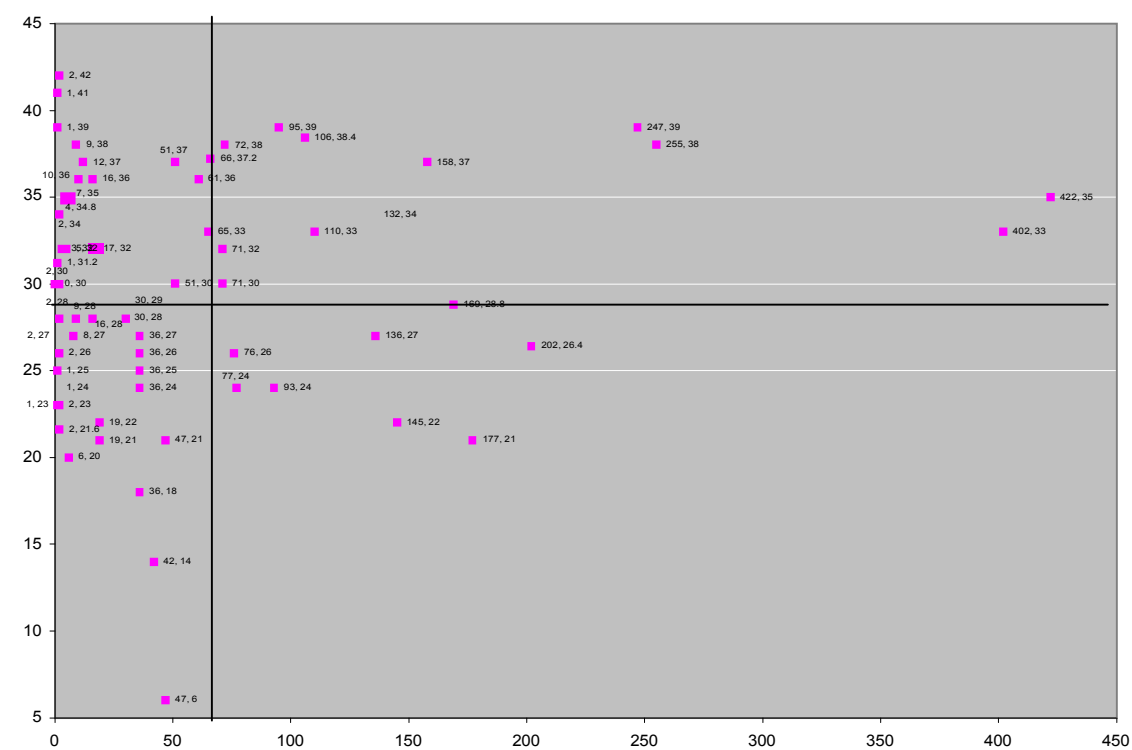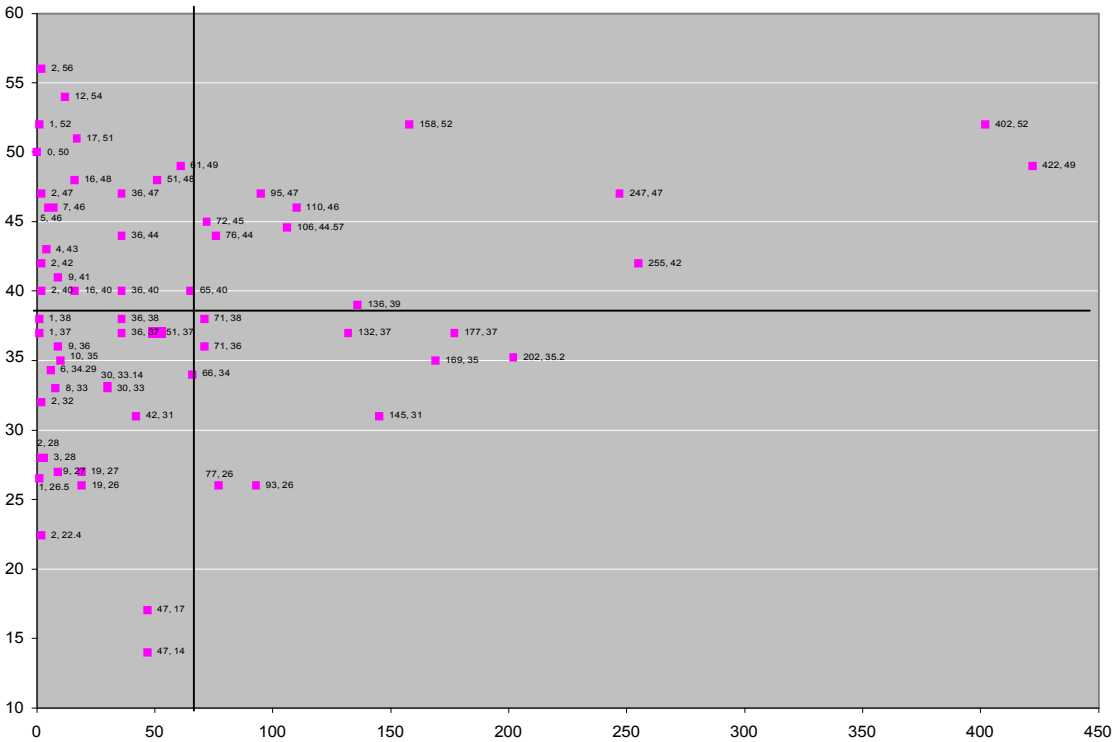
Chart 2: Competence and participation 1

Chart 3: Relatedness and participation 1

Appendix F: Individual case studies of interviewees

Individual Case Studies

Case study: Kate

Kate is a professor at a mid-size southern University. She is Caucasian and over sixty years of age. She has been in her profession for more than ten years, and rated herself as "highly proficient" in terms of both her professional and computer expertise.

A member of Texas CGHE, Kate's participation numbers are quite high, with a total participation figure of 202. She logged into the site 80 times, posted 13 main topics, and responded to other's posts on 97 occasions. She also posted a large number of documents into the Shared Documents space, 12 in total. Kate was a participant in CGHE Online from the very beginning, and did receive the monetary stipend. She cites the stipend as being a very important part of why she participated in CGHE Online, saying, "This whole thing, my focus has always been, it's about the money. I wouldn't do anything if it weren't worth money to me."

Although Kate's participation was high, her scores on the Basic Needs for Motivation survey questions were medium-to-low for all three basic needs. Her Autonomy score of 37.8 put her just below the group mean of 38.5. Her Competence score of 26.4 was also slightly below the overall mean of 29.23, as was her Relatedness score of 35.2 when compared to the group mean of 38.51.

Case study: Irene

Irene, a Hispanic woman in her 30s, is a professor at a small southern university. She has been in her profession for more than ten years, and considers herself to be "highly proficient" in professional expertise and in computer expertise.

Irene only logged onto CGHE Online 14 times, but was fairly active on the occasions she was on the site. She didn't post any main topics or Shared Documents, but did write 47 responses to others' posts, for a participation total of 61.

Irene's Basic Needs Satisfaction scores were all quite high, although her participation total was average. Her Autonomy score of 49 was on of the highest in the survey, much higher than the group mean score of 39.25. Her Competence score of 36 wasn't quite as high, being closer to the average of 29.3. However, her Relatedness score was also quite high at 49, with the group mean at 38.51.

Case study: Sam

Sam, a white male in his 50s, is a professor at a small university. He is a relative newcomer with less than six years in his current profession, but rated himself high in terms of his professional expertise. He also rated his computer expertise as "highly proficient."

Sam only logged onto CGHE Online twice, and did not post any main topics or responses. He also did not post anything into Shared documents.

Unsurprisingly, given his participation totals, Sam's Basic Needs Satisfaction Questionnaire survey results were quite low as well. His Autonomy score of 25.2 was well below the group average of 39.25. His Competence score of 21.6 was closer to the group average of 29.23. However, his Relatedness score was next-to-lowest of the entire survey, at 22.4.

Case   Study:
Jane

Jane is a white female in her 50s, who is an online instructor for a mid-sized southern university and also a reading teacher in an elementary school. She has

been in her profession for more than ten years, and rates herself as "highly proficient" in both professional expertise and computer expertise.

Jane is one of the most prolific users of CGHE Online, with a participation total of 407. She logged into the site 207 times, started 38 topics, and posted 156 responses to other members. However, she posted only one Shared Document on the site.

Jane's Basic Needs Satisfaction results are reflective of her high participation levels. She had the highest Autonomy score in the survey, at 49, ten points higher than the group mean. Her Competence scores were somewhat more average, at 33 as compared to the 29.3 group mean. Her Relatedness score of 52, though, was again one of the highest in the survey respondents.

Case study: Pearl

Pearl is a white female who is over 60 years of age, and is in a coordinator position for a mid-size southern university. She has been a professional educator for over ten years. She rates herself as "highly proficient" in terms of her professional expertise, but as only "somewhat proficient" in her computer expertise.

Pearl had a participation total of 136, which is fairly high. She logged in 110 times; however, she posted only two main topics, and only 24 responses, both of which are fairly low totals in comparison to the number of times she logged in.

Pearl's Autonomy score was one of the lowest in the group, with a total of 29 as opposed to the group mean of 39.25. However, her Competence score was solidly in the middle, with a score of 27 in comparison to the group mean of 29.23. Her Relatedness scores were actually slightly above average at 39, with the group mean at 38.51.

Case study: Renee

Renee is a white female in her 40s, and is a professor at a small university. She has been in her profession for between five and ten years. She rated herself as "highly proficient" in terms of her professional expertise, but as only "somewhat proficient" in computer expertise.

Renee had a fairly high participation total of 169. She posted four main topics, and 46 responses to the topics of others. She didn't post anything in the Shared Documents section of the site.

Although Renee's participation totals were high, her Basic Needs Satisfaction scores were all solidly average. Her Autonomy score of 35 was somewhat below the overall mean score of 39.25. Her Competence total of 28.8 is just under the group mean of 29.23. Her Relatedness score of 35 was also just below the group average of 38.51.

Case study: Sandy

Sandy, a professor at a small southern university, is a white female who is in her 50s. She has been in her current profession for between five and ten years. Sandy considers herself to be "highly proficient" in her professional endeavors, but only to be "somewhat proficient" in regards to computers.

Sandy's participation total in CGHE Online was fairly low at 36. She logged in 27 times, but didn't post any main topics and only wrote eight responses to the posts of others. She did post one Shared Document.

Two of Sandy's scores on the Basic Needs Satisfaction Questionnaire section of the survey were somewhat high; her Autonomy score of 41 and her Relatedness score of 44 were both well above the group means. However, her Competency score was one of the lowest at 18, well below the group average of 29.23.

Case study: Julie

Julie, a white female in her 60s, is a professor at a mid-size university. She has been a professional educator for more than ten years; however, she rated both her professional expertise and her computer expertise as being only "somewhat proficient."

Julie participated very little in CGHE Online, with a total of 6. She logged in three times, posting one main topic and two responses to the posts of others. She did not add any Shared Documents to the site.

Julie's Autonomy and Competence scores on the Basic Needs Satisfaction Questionnaire were low; her Autonomy total of 35 was somewhat below the group mean of 39.25, and her Competency score was 20, which was one of the lowest scores in the group. Her relatedness score was slightly low at 34.29, as compared to the group average of 38.51.

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Vita

Haley Kay Steele attended Parkview Arts Magnet High School in Little Rock, Arkansas, graduating in May of 1990. She received the degree of Bachelor of Arts in English from Ambassador University in Big Sandy, Texas, in May of 1994. During the following years, she pursued a career as a visual arts specialist with McKinsey & Company in Dallas, Texas, then as a web developer with Imagine Avenue in Hollywood, California. After returning to her home state of Arkansas, she opened her own web development firm, Steeleworks Design, in the fall of 1999. In August 2003 she was awarded a Master's of Education in Gifted Education from the University of Arkansas at Little Rock, and entered the Graduate School at the University of Texas at Austin that same month. While a student there, Haley also worked as a web developer for the Vaughn Gross Center for Reading and Language Arts at the University of Texas. Currently, Haley is employed as an E-Learning Producer by the Department of Veterans Affairs.

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