DIGITAL ETHNOGRAPHY: UNDERSTANDING FACULTY USE OF AN ONLINE COMMUNITY OF PRACTICE FOR PROFESSIONAL DEVELOPMENT

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Abstract

This doctoral thesis explored how faculty members in higher education use an online community of practice for professional development in teaching and, if so, in what ways and for what purposes? Answering this inquiry involved the knowledge of social constructivism, higher education, teaching, professional development, and online communities. Vygotsky’s theory on social constructivism and the zone of proximal development were used to understand the social interactions and peer-to-peer learning in the “Higher Education and Learning” group on LinkedIn. A digital ethnography was used to answer this question within the context of the “Higher Education Teaching and Learning” online community. The research study found that faculty members in a LinkedIn group appeared to be learning from online social interactions through cognitive structuring, feedback, scaffolding, questioning and contingency management. The major topics discussed included ‘Best Teaching and Learning Practices’, ‘Challenges in Teaching and Learning’, ‘Faculty Resources and Professional Development’ and ‘Technology’.

Key words: online community, community of practice, faculty learning, teaching, professional development, digital ethnography.
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“Education is not preparation for life; education is life itself” – John Dewey
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Chapter 1: Introduction

Statement of the Problem of Practice

Teaching and learning in higher education is undergoing a major transformation where faculty of the future will need to be prepared to adapt to an increasingly technology-driven society (Baldwin & Wawrzynski, 2011; Schuster & Finkelstein, 2006). In 2010 the U.S. Department of Education wrote “educators must be more than information experts; they must be collaborators in learning, seeking new knowledge and constantly acquiring new skills alongside their students (National Education Technology Plan, 2010, p 2.).” As technology increasingly becomes part of work and daily life there is a growing need for faculty in higher education to integrate technology into their own professional development (Manlow, Friedman, & Friedman, 2010; Schneckenberg, 2009).

Yet, despite a large amount of time and money being spent in higher education on faculty professional development in teaching (Hogan & McKnight, 2007) historically there has been continued resistance to change traditional teaching methods (Baldwin & Wawrzynski, 2011; Gibson, Harris & Colaric, 2008; Hogan & McKnight, 2007; Huang, Deggs, Jabor & Machtmes, 2011; Jaffee, 1998). However, very recently there appears to be a new shift in attitude toward teaching where a large number of faculty members in higher education are beginning to use online social media sites (Moran, Seaman, & Tinti-Kane, 2011) and participate in online communities such the “Higher Education Teaching and Learning” group on LinkedIn. Faculty use of free online communities could potentially help cut some faculty development costs for higher education institutions and become a more effective way to support and encourage professional development in teaching. Therefore, there is a need to understand how faculty
members in higher education use an online community of practice to share best practices and information related to teaching and learning.

In higher education there has been a growing concern over the quality of teaching and increased discussion about the need to shift from a teaching to a learning paradigm (Association of American Colleges and Universities, 2002; Baldwin & Wawrzynski, 2011; Barr & Tagg, 1995; Boyer, 1990; Brady, Holcomb, & Smith, 2010; Pascarella, 2001). The Spellings Report (2006) suggests that serious reforms are needed in higher education due to many college students earning a degree but not actually mastering the reading, writing, and thinking skills needed to enter the workforce. The report recommends that higher education institutions should harness the power of technology by sharing educational resources among institutions while using technology based learner-centered principles (Spellings, 2006).

Technology is not only changing the way students are taught, but it is changing the way that faculty members have the opportunity to learn about teaching practices. Faculty today must embrace a model of lifelong learning and continuous education if they are to keep current; however, in a modern world finding time for professional development with increasing commitments is a real challenge (Toews & Yazedjian, 2007). Online communities of practice, independent of time and place, provide faculty the opportunity for self-paced and self-directed learning for the purpose of continued professional development (Sherer, Shea, & Kristensen, 2003). The Internet has made it possible to establish a new type of learning environment where faculty can collaborate with fellow colleagues to construct a meaningful and powerful learning experience (Brooks, 2010; Stacey, 2011).

Social networking sites and online communities like “LinkedIn” allow faculty to share ideas, collaborate and discuss best practices in ways that were previously impossible (Brooks,
there has been limited research in this area (Amundsen & Wilson, 2012) therefore, the research question is do faculty members in higher education use an online community of practice for professional development in teaching and, if so, in what ways and for what purposes?

**Significance of Problem of Practice**

*Faculty Resistance to Professional Development in Teaching*

Many faculty members teach as they were taught, in traditional classrooms with teacher-centered strategies dominated by lecture and discussions (Taylor & McQuiggan, 2008). There is mounting evidence that traditional methods for teaching, such as lecturing, are relatively ineffective for promoting conceptual understanding and that memorization is less needed in a digital society with easy access to the internet (Knight & Wood, 2005). Instead, faculty today are encouraged to integrate active learning, collaborative activities, student focused teaching and technology enhanced instruction into the classroom experience (Ajjan & Hartshorne, 2008; Gibbs & Coffey, 2004; Kuh, 2001; Rochefort & Richmond, 2011; Terenzini et al 2001; Umbach, 2007; Umbach & Wawrzynski, 2005). However, many faculty members over the years have been slow to adapt to these changes in teaching despite a plethora of supporting research and readily available professional development opportunities (Amundsen & Wilson, 2012; Cho & Rathbun, 2013; Kirschner, 2012; Katkin, 2003; Veletsianos & Kimmons, 2013).

Gathering faculty support for professional development in teaching continues to be a challenge across campuses in the United States (Association of American Colleges and Universities, 2002; Rochefort & Richmond, 2011; Veletsianos & Kimmons, 2013). Administrators, faculty members and instructional designers leading change initiatives in teaching often experience strong resistance to attempts to make alterations to long standing

Importance of Professional Development in an Evolving Higher Education Landscape

For the purpose of this study it is inferred that professional development refers to learning and the acquisition of skills, information and knowledge related to the teaching and learning of students. Crosling, Heagney, & Thomas (2009) maintain that faculty members hold a great deal of responsibility for helping students succeed in the classroom since non-completion of degrees has financial implications for students, society and the economy through the loss of potential skills and knowledge. Vardi (2011) notes that Higher Education has changed in the last 20 years due to increases in both international and domestic students attending colleges in the United States from diverse backgrounds. Diversity combined with an increase in the number of students has required changes in teaching methods to accommodate differing learning styles and backgrounds (Brown-Glaude, 2008; McInnis, 2000; Vardi, 2011). In addition, there has been an increasing demand for higher education instructors to continue to improve their teaching methods through the use of rapidly changing technology (Vardi, 2011; Veletsianos & Kimmons,
These challenges have been made even more difficult by the lack of funding for staffing and the use of ‘adjunct models’ for teaching (Bettinger & Long, 2010; Jacoby, 2006; Vardi, 2011). In the face of all of these challenges faculty are increasingly being evaluated (Weinberg, Hashimoto, & Fleisher, 2009) and held accountable (Zabaleta, 2007) for their teaching practices due to rising tuition costs (U.S. Department of Education, 2011). In addition, universities are feeling increasing pressure to improve quality, focus directly on customer needs, and to respond to competitive pressures (Brown, & Zamani-Gallaher, 2010; Hacker & Dreifus, 2010).

Some long-standing views in higher education are that academics are not prepared for their teaching roles and are lacking knowledge of effective teaching practices (Evers & Hall, 2009; Vardi, 2011). These views have led institutions to pursue a number of ways to develop teaching practices in higher education (Neill & Haralson, 2011; Schneckenberg, 2009; Spector, 2010; Taylor & Mcquiggan, 2008). Professional development in teaching for faculty is critical to ensure both retention and success of students in their studies at higher education institutions (Crosling, Heagney, & Thomas, 2009; Roberts, 2011). Professional development of faculty members in teaching greatly impacts the future of both higher education and society.

*Changing Times: Faculty Adoption of Online Communities for Professional Development*

What if faculty members were able to find a way around these challenges? What if faculty were offered an opportunity to participate in an online community that encouraged active learning, open dialogue and sharing of information at a time that was convenient for them and driven by intrinsic motivation instead of a university mandate? This may sound like an idea that might not work, however this is precisely what appears to be taking place in a LinkedIn online community.
The “Higher Education Technology and Learning (HETL)” group on LinkedIn is a very active online community that has over 30,000 higher education professionals, including faculty members (LinkedIn, 2013). This group was created in February 2010 and continues to grow at a rapid rate in both discussions and membership (LinkedIn, 2012). HETL is a free and voluntary online community where faculty and higher education professionals can share information, communicate with one another and ask/answer questions in regards to teaching that is not restricted by time or place. Online communities such as “LinkedIn” appear to be giving faculty members an opportunity to independently locate, create, evaluate and share knowledge with higher education colleagues and peers (boyd & Ellison, 2008; Grosseck, 2009; Moran, Seaman, & Tinti-Kane, 2011; Richmond, Rochefort & Hitch, 2011). Manlow, Friedman, & Friedman (2010) believe that 21st century universities will need to become flexible learning organizations that utilize technology to share information, collaborate and find solutions to the challenges in higher education. Through the use of online communities faculty now have access to an anytime digital learning environment and the opportunity to share best teaching practices for the purpose of professional development (Brooks, 2010; Manlow, Friedman, & Friedman, 2010; National Education Technology Plan, 2010). However, there is limited research on faculty use of online communities in general and, for the purposes of this thesis the use of online communities for faculty professional development will be examined.

**Brief Summary of Research Question**

This doctoral thesis aims to understand the faculty experience of using the LinkedIn “Higher Education Teaching and Learning Community”. As previously mentioned, in the past many faculty members have been resistant to professional development opportunities and programs on campus. Thus, the research question is as follows: Do faculty members in higher
education use an online community of practice for professional development in teaching and, if so, in what ways and for what purposes?
Definition of Terms

*Cognitive Structuring:* It is a means of assistance whereby the more knowledgeable peer provides a structure for thinking and acting that helps the learner organize information and experiences related to teaching. Cognitive structuring assists by providing explanatory and belief structures that organize and justify new learning and perceptions and allow the creation of new or modified schemata.

*Contingency Management:* Application of the principles of reinforcement and punishment to behavior related to teaching practices. It is used by the more knowledgeable peer to reward desired teaching behaviors through praise/encouragement, or to control undesirable behaviors through punishment in the form of reprimand/censure.

*Digital Ethnography:* A form of online and digitally mediated qualitative research, which includes the use of digitally-mediated field notes, digital archives, content analysis, online participant observation and online discussions (Murthy, 2011).

*Feedback:* Used when the individuals in the group provide information (positive or negative) on specific acts, performance, or situations or acknowledge a contribution in reference to teaching. Feedback is essential in assisting performance because it allows the performance to be compared to the standard and thus allows self-correction.

*Instructing:* Instructing requests specific action and it assists by selecting the correct response and by providing clarity, information and decision making. This often occurs when a more knowledgeable peer provides explicit instructions or resources in this case related to teaching.

*Learning:* For the purpose of this study learning is defined as the acquisition of knowledge, information or skills.
Modeling: Modeling is offering behavior for imitation. This occurs when a more knowledgeable peer demonstrates the behavior of imitation or modeling.

NVivo: Qualitative research software that helps researchers manage, classify, analyze, sort, identify themes and to make sense of unstructured information.

Online Community: A group of individuals (1) with shared interests, language, social conventions, experiences and/or needs and (2) engaged in sociable relations, where they obtain important resources, develop strong interpersonal feelings of belonging, and forge a sense of shared identity through repeated online participation and interaction (Preece & Maloney-Krichmar, 2003; Rheingold, 1993).

Online Community of Practice: A group of active members online that are practitioners or experts in a specific domain of interest who participate in a process of collective learning within their domain through knowledge creation and sharing.

Professional Development: The term professional development in this study refers to learning and the acquisition of skills, information and knowledge related to the teaching and learning of students.

Professional Learning Network (PLN): A group of people that can help an individual reach personal or professional goals through answering questions and sharing information, knowledge, experiences, and resources that respond to individual needs and learning (Tobin, 1998; Warlick, 2010).

Questioning: An active linguistic and cognitive response used as a prompt, to stimulate thinking and to provoke creations by the group members.
Scaffolding: Scaffolding refers to the help, guidance, assistance, suggestions, recommendations, advice, opinions, and comments that the peer provides to help the learner master the materials and move to a higher level of understanding.

Social Constructivism: Founded on the idea that people collectively impose meaning on the world and learn collectively through social interactions. Online communities are socially constructed and consist of a collection of participants who are actively seeking to construct new knowledge (Vygotsky, 1960; Warford, 2011).

Teaching Practices: References to student learning in higher education.

Tharp Seven Means of Facilitating Learning: Learning through social constructivism through questioning, feedback, cognitive structuring, modeling, contingency management, instructing and scaffolding.

Vygotsky Theory: Through social constructivism and the zone of proximal development individuals can learn new information from social interactions with more knowledgeable peers mastering concepts and ideas that they could not understand on their own.

Zone of Proximal Development: The distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving in collaboration with more capable peers.
Chapter 2: Theoretical Framework

Social Constructivism is founded on the idea that people collectively impose meaning on the world (Vygotsky, 1960). Vygotsky’s Theory, which focuses on both social constructivism and the Zone of Proximal Development, was chosen for this research. Social constructivism is helpful in both framing the understanding of the problem of practice and the design of the research study. Individuals and their social partners “co-construct” knowledge as they collaborate with each other (Sigelman & Rider, 2003, Vygotsky, 1960).

Lev Vygotsky was an active scholar in the 1920s and 1930s and thought leader in social constructivism through viewed behavior, social interaction and consciousness as aspects of a single system (Eun, 2008). In order to understand Vygotsky’s theory it is important to provide some historical context regarding the political climate of the time. Vygotsky’s work was banned for political reasons in Soviet Russia and the western world lacked English translations of his work, which seriously limited consideration of Vygotsky’s ideas, until recent decades (Sigelman & Rider, 2003). Vygotsky began developing his theory shortly after the Russian Revolution, where the new political climate of Marxism emphasized socialism and collectivism (Daniels, 2007). Individuals were expected to sacrifice their personal achievements for the improvement of the larger society (Fani & Ghaemi, 2011). Only a few short articles by Vygotsky were available in English in the United States until translation of Thought and Language was published in 1962 (Miller, 2011). In emphasizing the social origin of individual mental processes, Vygotsky maintained that “any higher mental function was external and social before it was internal (Minick, 1987, p. 197).” Unlike many western theories that focus on the individual as separate from their social environments (Miller, 2011) Vygotsky’s Theory takes a sociocultural approach.
Intelligence in the Vygotsky model is held by the group, not the individual, and is closely tied to the language system and tools that the group has developed over time (Case, 1998). Our culture and social experiences in a group impact how we think, not just what we think (Sigelman & Rider, 2003). According to Vygotsky the key to understanding the role of language in development lies in the dual nature of word meaning or language in use, otherwise called discourse (Sigelman & Rider, 2003). Lui & Matthews (2005) suggest that encapsulated in discourse is the historical and cultural establishment of human language. The mastery of language entails both producing grammatically correct texts, but also producing appropriate dialogue as required by situational, sociological and communicative demands (Liu & Matthews, 2005).

In Vygotsky's view (1960), mental functioning in the individual can be understood only by examining the social and cultural processes from which it derives (Daniels, 2007). Vygotsky expected that cognitive development would vary from society to society depending on what mental tools the culture valued and made available (Sigelman & Rider, 2003). Culture defines what knowledge and skills individuals need to acquire and gives them tools such as language, technology, and strategies for functioning in that culture (Miller, 2011 & Vygotsky, 1960).

It is important to mention that Vygotsky’s theory was created with child development specifically in mind. However recently it has been adapted for use with adults as well (Daniels, 2007; Fani & Ghaemi, 2011; Welk, 2006). DiPardo & Potter (2003) explain that Vygotsky’s Theory on development is a continuous, cumulative, and cyclical process that includes regressions as well as progressions. Therefore, the process inherent in learning and development could be identified as similar in many ways for both children and adults. A variety of researchers have adapted and incorporated Vygotsky’s ideas of social constructivism and the
Zone of Proximal Development (ZPD) to extend to adults in higher education and online learning (Eun, 2008; Fani & Ghaemi, 2011; Ohta, 2005; Stacey, 2011). Unfortunately, Vygotsky died at the young age of 38 (Sigelman & Rider, 2003).

Robbins (2001) stated that it is important to remember that the social precedes the individual in Vygotsky’s understanding of consciousness, and that it is created and expanded through interaction with the world. Vygotsky argued that the individual dimension of consciousness is derivative and secondary, based on the social (Wertsch, 1983). The individual personality is shaped by the social environment therefore the individual draws from society the resource for growth, consequently the change and growth of the society and individuals are closely interconnected (Liu & Matthews, 2005).

Social Constructivism is founded on the idea that people collectively impose meaning on the world (Vygotsky, 1960). Learning and knowledge are a social phenomenon, not solely created by the individual in isolation. Through social dialogue individuals learn how skilled problem solvers in their society go about tackling problems and gradually internalize language so that it becomes part of their own thinking.

Vygotsky (1978) defined the Zone of Proximal Development as “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers (p. 86).” The zone of proximal development (ZPD) is a space created between a more competent participant and a less competent participant (e.g., expert and novice) for the purpose of guiding the latter to the most proximal developmental level with the assistance of the former (Ageyev, 2003). Warford (2011) describes zone of proximal teacher development (ZPTD) as the distance between what individuals can do on their own compared to
what individuals can do with assistance from more capable peers. The idea is that the group will contribute more to the learner’s understanding than he or she is capable of constructing individually (Stacey, 1999). Learning therefore could involve interactions between novices (learners) and mature practitioners (more knowledgeable individuals) within the communities of practice (ZPD) framework (Hung, 1999; Hung & Der-Thanq, 2001).

According to Vygotsky (1978), with scaffolding, learners are assisted by both knowledgeable peers and external tools. In Figure 1 Zainuddin, Azween, & Alan (2011) depict visually how learners “scaffold” with the help of others and particular tools to optimize their ZPD and advance from their current development to achieve their potential development.

**Figure 1. Scaffolding using external tools between current and potential development by optimizing Zone of Proximal Development (ZPD) to achieve potential development**

(Zainuddin, Azween, & Alan, 2011, p. 42)

Tharp (1993) expanded on Vygotsky’s Theory and provided a summary of the types of assistance which have been seen to provide scaffolding to bring the performance of the learner through the ZPD. Tharp (1993) describes seven means of facilitating learning including:
questioning, feedback, cognitive structuring, modeling, contingency management, instructing and scaffolding.

Jalil et al. (2008) used the Tharp’s categories to analyze content in an online learning environment and found that when both the tutors and students offered assistance, it was usually in the form of peer suggestions and feedback, which suggested that some elements of peer-to-peer collaboration and scaffolding were present. However the more complex forms of assistance such as questioning, cognitive structuring, modeling, contingency management and instructing were not found to be used by students or tutors (Jalil et al., 2008).

Using Vygotsky’s theory this research study examined whether or not these more complex forms of assistance can be observed among a group of higher education faculty in an online community of practice. Online social interactions of faculty will be examined in light of the seven means of facilitating learning (questioning, feedback, cognitive structuring, modeling, contingency management, instructing, and scaffolding) (Tharp, 1993). Social constructivism will also be used as a lens through which to examine the social and cultural processes of the “Higher Education Teaching and Learning” online community. According to Vygotsky, learners need conversation and social interactions for learning to occur (1978), which aligns with the idea behind using an online community for the purpose of faculty professional development and learning. Social constructivism was used as a lens to guide the problem of practice, formulate the research questions, interrogate the literature, and define the research methodology.
Chapter 3: Literature Review

The literature review addresses different bodies of literature to investigate how a group of faculty members in an online community of practice learn about teaching practices in higher education. In the literature review existing research on faculty professional development (Amundsen & Wilson, 2012; Gosling, 2009; Guskey, 2000; Mamiseishvili & Rosser, 2010), online communities (Brooks, 2010; Carter, 2005; Putnam, 2000; Preece & Maloney-Krichmar, 2003; Rheingold, 1993), social constructivism (DiPardo, & Potter, 2003; Eun, 2008; Liu & Matthews, 2005; Stacey, 2011; Tharp, 1993) and digital ethnography (Carter, 2005; Hemmi, Bayne & Land, 2009; Kozinets, 2010; Murthy, 2008, 2011) was examined.

The literature review outlines gaps in the research, potential challenges and serves as a guide to the research design of the doctoral thesis. Investigators have taken an assortment of research approaches to better understand online communities and professional development (Amundsen & Wilson, 2012; Carter, 2005; Gosling, 2009; Hemmi, Bayne & Land, 2009; Kozinets, 2010; Mamiseishvili & Rosser, 2010; Murthy, 2008; Murthy, 2011). Online communities appear to allow faculty to share ideas, collaborate and discuss best practices in ways that were impossible historically before modern digital technologies (Manlow, Friedman, & Friedman, 2010). Different components from a variety of studies on professional development, learning, technology, digital ethnography and online communities were chosen to better understand the research methods and instruments that are used (Amundsen & Wilson, 2012; Carter, 2005; Gosling, 2009; Hemmi, Bayne & Land, 2009; Kozinets, 2010; Mamiseishvili & Rosser, 2010; Murthy, 2008, 2011).
This literature review on understanding faculty use of an online community of practice for professional development is organized into five main sections: (1) Faculty Professional Development (2) Online Communities (3) Faculty Use of Online Communities (4) Social Constructivism (5) Digital Ethnography.

**Faculty Professional Development**

Gathering faculty support for professional development and improved teaching methods continues to be a challenge across campuses in the United States (Association of American Colleges and Universities, 2002; Rochefort & Richmond, 2011). Instructional designers and educational technologists have created a rich body of tools and best practices to facilitate teaching, but faculty are often resistant (Couros, 2010; Neill & Haralson, 2011; Rochefort & Richmond, 2011; Schneckenberg, 2009; Spector, 2010; Taylor & Mcquiggan, 2008). One challenge is that professors are often trained in their doctoral degree programs to become researchers and not teachers (Boyer, 1990; DeHaan, 2005) with less interest and motivation to develop teaching skills. Frequently, doctoral prepared teachers are rewarded more for research and publications than on teaching (Association of American Colleges and Universities, 2002; DeHaan, 2005; Menand, 2010; Trower & Gallagher, 2010)

Administrators and faculty members leading change initiatives in teaching have often experienced strong resistance and roadblocks to attempts to make alterations to long standing traditions in teaching practices (Baldwin & Wawrzynski, 2011; Gibson, Harris & Colaric, 2008; Huang, Deggs, Jabor & Machtmes, 2011; Renties & Lygo-Baker, 2013; Tagg, 2012). Moreover higher education is a culture with a status quo bias where the faculty members often prefer to leave teaching practices as they are, and a belief that no changes are needed has historically been
a reoccurring obstacle (Huang, Deggs, Jabor & Machtmes, 2011; Jaffee, 1998; Tagg, 2012). Wolcott (2003) noted that faculty resistance could be attributed to fears associated with the use of technology, being displaced, losing control over teaching, and job security. Several other reasons for faculty to be resistant to developing their teaching include a heavy workload, lack of time, large class sizes, unfamiliarity with new teaching methods, absence of incentives for teaching (annual raises, promotions, tenure, prestigious grants or awards etc.), shortage of interest, lack of funding, fear that identification as a teacher will reduce their credibility as researcher, anxiety of being evaluated by others and an increased value on scholarship instead of teaching (Åkerlind, 2007; Association of American Colleges and Universities, 2002; Boyer, 1990; Brooks, 2010; Cech, 2003; Knight & Wood, 2005; Zabaleta, 2007).

Faculty members often do not want to be mandated by administration on how to teach and spend their time due to their strong sense of independence (Dunn, McCarthy, Baker, Halonen & Boyer, 2011). Dunn et al. (2011) wrote that resistance can occur when faculty are heavily pressured to accept a certain view or attitude when they believe their academic freedom is at stake, which could result in the faculty member adopting a view that is contrary to what was intended. Mandates, therefore, to alter teaching practices of faculty are often difficult to implement (Dunn et al., 2011; Clarke, 1996). A lack of time, independence, culture and motivation appear to be substantial obstacles in embracing new forms of teaching (Boyer, 1990; Cech, 2003; Lai, Chen & Chang, 2014; Knight & Wood, 2005).

Globalization in higher education and easy access to technology has increased the international sharing of information and mobility for professors globally. The idea of mass access to higher education has meant unprecedented expansion of higher education everywhere
and there are about 134 million students (Altbach, 2013) in postsecondary education worldwide. Altbach (2013) notes that many countries have seen unprecedented and sustained expansion of students in the past several decades from North America, Europe, and a number of Pacific Rim nations. The National Center for Education Statistics (2009) reports there are 2,381,702 full-time faculty members and 1,341,717 part-time faculty members in the United States employed at 2 and 4 year colleges/universities.

A variety of definitions have been used in the literature referring to faculty professional development including educational development, instructional development, and academic development (Amundsen & Wilson, 2012; Gosling, 2009; Mamiseishvili & Rosser, 2010). Guskey (2000) defined professional development as “those processes and activities designed to enhance the professional knowledge, skills, and attitudes of educators so that they might, in turn, improve the learning of students” (p. 16). Professional development is considered to be one of the most effective ways to improve the teaching and learning process (Eun, 2008; Rienties & Lygo-Baker, 2013). According to Mamiseishvili and Rosser (2010) service, teaching and research are key components to consider when researching faculty professional development. Amundsen and Wilson (2012) conducted a review of the literature on the improvement of teaching and learning in higher education and found that professional development continues to be a developing field where more research is needed to understand best practices.

A professional learning network (PLN) is defined as a group of people and information sources that can help an individual reach personal or professional goals (Department of Education, 2010). For an educator, a PLN guides learning, points to learning opportunities, answers questions, and contributes knowledge, experiences, and resources that respond to
individual needs (Tobin, 1998; Warlick, 2010). As mentioned earlier, educators today have an increasing need to collaborate in learning, seek new knowledge and constantly acquire new skills (National Education Technology Plan, 2010). Some additional research supporting the role of faculty professional development is available in studies examining mentoring, human resource management and career development all of which reinforce the above needs for today’s educator (Bland, 2009; Brown-Glaude, 2008; de Janasz & Sullivan, 2004; Greene et al., 2008; Schuster & Finkelstein, 2006).

Faculty professional development often tends to be provided by a teaching or faculty development center offered by either an on-campus department or a centralized service (Diaz, et al., 2009). Professional development has encompassed reading publications, going to conferences and participating in on-campus discussions (Caffarella & Zinn, 1999). Traditionally, universities have created face-to face opportunities for educators to learn and collaborate in peer learning communities (Cox, 2003; Hinson & LaPrairie, 2005; Lenning & Ebbers, 1999; Quinlan, 1996). For example, Cox’s (2004) research on faculty learning communities demonstrated how cross-disciplinary faculty (group of six to fifteen members) at Miami University engaged in an active, collaborative, yearlong program with activities to enhance the scholarship of teaching and community building. Cox (2004) believed ten components were essential when building community including safety/trust, openness, respect, responsiveness, collaboration, relevance, challenge, enjoyment, morale of a group and empowerment.
Online Communities

People around the world meet online to chat, to find like-minded people, to debate issues, share information and ask/answer questions (boyd, 2008 & Ellison; Carter, 2005). An online community has varying definitions depending on the field (Brooks, 2010; Carter, 2005; Putnam, 2000; Preece & Maloney-Krichmar, 2003; Rheingold, 1993; Ziegler, Paulas & Woodside, 2013).

For the purpose of this research study an online community will be defined based on previous research by Preece and Maloney-Krichmar, (2003) and Rheingold (1993) as a group of individuals (1) with shared interests, language, social conventions, experiences and/or needs and (2) engaged in sociable relations, where they obtain important resources, develop strong interpersonal feelings of belonging, and forge a sense of shared identity through repeated online participation and interaction.

Research on computer-mediated communication and online communities dates back to the 1990s (Babbie, 1996; Etzioni & Etzioni,1999; Herrmann, 1998). However, only in recent times have online communities become sophisticated enough to become part of everyday life across the globe (Ellison, Steinfield, & Lampe, 2007). Some additional areas in academia interested in online communities include social psychology, sociology, communications, public relations, gerontology, computer science, business and marketing (Carter, 2005; Fay, 2007; Frey & Lthje,2011; Lin & Lu,2011; McCorkindale & Lewis, 2010; Nimrod, 2011; Preece & Maloney-Krichmar, 2003; Tonteri, Kosonen, Ellonen & Tarkiainen, 2011; Yao, Tsai & Fang; 2014).Current higher education literature on online communities seems to focus mostly on either student use of social media sites like Facebook or how online communities can be used for online teaching (Ajjan & Hartshorne, 2008; Arteaga Sánchez, Cortijo, & Javed, 2014; Lampel &
There appears to be limited research (Brooks, 2010; Cho & Rathbun, 2013; Hermann, 1998; Veletsianos & Kimmons, 2013) on how faculty members are currently using online communities for their own professional growth and development.

**Faculty Use of Online Communities for Professional Development**

Many universities deliver instructor-led courses for teaching new skills and improving knowledge both on-line and in-person (Brooks, 2010). Computer-based online training provides the means for cost-effective delivery often through portable and wireless devices with anywhere and anytime availability (London & Hall, 2011). However, many faculty members have been slow to adapt to these changes in teaching despite a plethora of supporting research and readily available professional development opportunities (Amundsen & Wilson, 2012; Katkin, 2003; Kirschner, 2012; Rientes & Lygo-Baker, 2013). Increasingly it appears that faculty members are taking these interactions to online communities, making them more open and inclusive, and customizing them for specific needs (Brooks, 2010; U.S. Department of Education, 2011). Learning in organizations appears to be changing from traditional instructor-led teaching methods to learner self-initiated approaches (London & Hall, 2011; U.S. Department of Education, 2011; Ziegler, Paulas & Woodside, 2013).

Online communities support faculty learning, enabling them to “collaborate with their peers and leverage world-class experts to improve student learning and extend the reach of specialized and exceptional educators” (U.S. Department of Education, 2010, pp. 42-44). In online communities individuals can share information and communicate with one another for the purpose of growing professionally (Brooks, 2010; Richmond, Rochefort & Hitch, 2011). The concept of developing online learning communities is based on a constructivist pedagogical
foundation, which emphasizes the importance of collaborative learning and the social construction of knowledge (Eun, 2008; Murdock & Williams, 2011; Sorensen, Takle, & Moser, 2006). Online communities appeal to faculty members who want to build knowledge at times beyond campus business hours and need immediate support from like-minded professionals that work across social, cultural, and geographic boundaries (Brooks, 2010).

Online communities are sometimes referred to as communities of practice where groups of people share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting in an ongoing basis with technology (Department of Education, 2010; Ke & Hoadley, 2009; Murdock & Williams, 2011; Wenger, McDermott & Snyder, 2002). According to Wenger, McDermott & Snyder (2002) in a community of practice people don’t necessarily work together every day, but they meet because they find value in their interactions from the sharing of information, insight, and advice to solve problems.

Faculty members would like to have a greater flexibility to learn, interact, correspond and collaborate in an online learning setting with other scholars (Ardito, et al., 2006; Adams and Morgan, 2007; Brill & Park, 2011; Rienties & Lygo-Baker, 2013). The U.S. Department of Education (2010) describes online communities as already showing potential to empower educators to collaborate, share resources and practices, access experts, extend their own learning, and solve problems. Table 1 describes a sample of online communities available to educators including descriptions and sample functions for moderated asynchronous discussion board, blogs, micro-blogs and members directories.
Table 1. Sample of Online Communities for Educators

<table>
<thead>
<tr>
<th>Design Element</th>
<th>Description and Sample Function(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Moderated Asynchronous Discussion Boards</strong></td>
<td>Starts with a topic or question introduced by a moderator or a participant and responded to by members of the community. Enables community members to provide mutual support through answering questions, sharing resources, and debating controversial issues. Often particularly valuable when starting an online community of practice by engaging members, providing information about their needs, and enabling their contributions without requiring all participants to be present at the same time.</td>
</tr>
<tr>
<td><strong>Blogs</strong></td>
<td>Typically, moderated forums with a single voice (or group of voices) initiating each discussion with a detailed, often impassioned statements about an issue; they also can be great vehicles to follow the unfolding of a project or story over time. Bloggers tend to offer strong opinions and seek to develop groups of followers, analogues to a newspaper, editorial writer or TV commentator (as a result, blogging can work particularly well in communities of education leaders.</td>
</tr>
<tr>
<td><strong>Microblogs and Hashtags</strong></td>
<td>E.g., Twitter, essentially broadcast, asynchronous instant messaging, opening up the IM concept and making it more of a public community conversation that, in active communities, can be pushed and advanced in nearly real time. Hashtags enable Twitter users to quickly find “dialogs” of interest and access prior messages. Can support “on-the-go” involvement via cell-phones and mobile devices.</td>
</tr>
<tr>
<td><strong>Member Directories and Profiles</strong></td>
<td>Vehicles for users to find and learn about each other, form bonds, and communicate (semi-) publicly (e.g., via personal comment walls, news feeds) or privately. Particularly effective when users can identify colleagues with similar roles or others with specific areas of expertise. Facebook, MySpace, and LinkedIn all started out as member directories and then added additional Community of Practice functions.</td>
</tr>
</tbody>
</table>

(Department of Higher Education, 2011, p. 28)

For the purpose of the study it is critical to mention a research report on “Teaching, Learning, and Sharing: How Today’s Higher Education Faculty Use Social Media” conducted in collaboration with Pearson Learning Solutions, the Babson Survey Research Group, and Converseon (Moran, Seaman, & Tinti-Kane, 2011). Over 1,900 faculty members across the United States from a variety of institutions completed the survey including full-time and part-time, tenured and non-tenured, as well as tenure track and adjunct faculty. The study examined the impact of online communities on personal use, professional use (on the job but not while teaching), and instructional use (both online and in the classroom) by higher education faculty members. Moran, Seaman, & Tinti-Kane (2011) found that faculty are large users of social media and that virtually all higher education teaching faculty were aware of the major online
communities including Facebook, Twitter, Myspace, LinkedIn, SlideShare, Flickr, YouTube (Videos), Blogs and Wikis.

Faculty were asked to gauge the frequency of their use of different social media sites in support of their professional careers, ranging from no use to daily use as depicted in Figure 1. The number of faculty who reported use of at least one online community in support of their professional careers included monthly (20%), weekly (23%), daily use (17%), rarely (19%) and never (21%) is shown in Figure 1. This research further supports the literature that faculty are using online communities for the purpose of professional development, but the methods and mechanisms by which professional development is taking place has limited research (Brooks, 2010).

**Figure 2. Frequency of Faculty Professional Use of Social Media**

![Pie chart showing frequency of faculty professional use of social media](image_url)

(Moran, Seaman, & Tinti-Kane, 2011, p. 9)

It is also important to mention what types of social media tools were reported being used by faculty for professional use as shown in Figure 2. The greatest number of faculty report using YouTube for professional (nonteaching) use than any other social media site. Over one-quarter of faculty reported using LinkedIn, blogs and wikis (Moran, Seaman & Tinti-Kane, 2011, pg 6.).
Figure 3. Faculty Professional (non-class) use of Online Communities in 2011

(Moran, Seaman, & Tinti-Kane, 2011)

After an online examination of social media sites there appears to be an abundant use of online communities by faculty members (Richmond, February 2, 2012). Appendix I describes ten different online communities where faculty members are currently engaging in discussions about teaching and learning. Appendix I outlines the 10 online communities found, the purpose of the group, the type of social media platform, the number of members and a link to the online community. The 10 online communities in Appendix I were specifically selected due to being very active with a large number of online discussions and having a large number of members (Academia, 2012; LinkedIn, 2012; Ning, 2012; Twitter, 2012).
Despite the many examples of online communities of practice developed for faculty there is limited literature on the use of these sites for professional development. There are few studies that examine both online communities and professional development of higher education faculty (Cox, 2003; Hermaan, 1998; Palloff & Pratt, 1999). For example, Hermann (1998) examined faculty members using listserves to learn from one another and share information on a variety of topics through social interactions and dialogue in an online community. Palloff and Pratt (1999) describe how to build online communities for collaborative learning, and they discuss the implications of their work on faculty development scenarios, however both of these works are over 15 years old. In recent times there seems to be limited research in the area of online communities and professional development.

Social Constructivism

After a review of the literature it is believed that Vygotsky’s Theoretical Framework and social constructivism provides a valuable framework for understanding online communities (Sigelman & Rider, 2003; Eun, 2008). Constructivism emerged as a leading learning theory by the 1980s and 1990s as interest diminished in behaviorist perspectives focused on mechanical learning methods (Mayer, 1996). Constructivists believe that knowledge is not mechanically acquired, but actively constructed within the constraints and offerings of the learning environment, which caused a major shift in the use of Vygotsky’s theory for educational research (Liu & Matthews, 2005).

Tharp (1993) expanded on Vygotsky’s Theory and provided a summary of the types of assistance which have been seen to provide scaffolding to bring the performance of the learner through the ZPD. Tharp (1993) describes seven means of facilitating learning including:
questioning, feedback, cognitive structuring, modeling, contingency management, instructing and scaffolding.

Vygotsky’s social constructivism has been used a great deal in the literature for better understanding education, online learning and online communities (DiPardo, & Potter, 2003; Fani & Ghaemi, 2011; Hung and Der-Thang, 2010; Stacey, 2011; Warford, 2011; Welk, 2006). For example, Hung and Der-Thang (2010) used Vygotskian theory to develop principles on learning for an online community of practice, which included four dimensions: situatedness, commonality, interdependency, and infrastructure. According to Hung and Der-Thang (2010): 1) Situatedness refers to learning embedded in rich situations where learners have the opportunity to reflect on their actions and discuss issues and problems with fellow members of the online community 2) Commonality is important for having a valid reason for members of the group to participate such as shared interests and problems which may include a common set of genres, signs, tools and language acts 3) Interdependency exists when the structure in a community leverages on varying demands, abilities and expertise to ensure collective problem solving and shared knowledge for the larger community 4) Infrastructure is driven by appropriate mechanisms, rules and accountability structures to help facilitate learning (pp. 3-4).

Liu & Matthews (2005) observed that despite the move from behaviorism to constructivism in education there are some who believe Vygotsky’s theory is difficult to validate. For instance, Fox (2001) observed that constructivism dismisses the roles of passive perception, memorization, and all the mechanical learning methods in traditional didactic lecturing. Biggs (1998) and Jin and Cortazzi (1998) noted that Vygotsky’s social learning approach does not always guarantee teaching effectiveness. A central concept in Vygotsky’s theoretical system is the role of social collectivity in individual learning and development (Vygotsky, 1978).
Common criticism of Vygotsky’s theory is that it emphasizes the role of the social and the collective, but overlooks the role of the individual (Resnick, 1996) and it fails to address how the external world is bridged across to the internal mind (Fox, 2001 and Cobb, 1996; Liu & Matthews, 2005).

In contrast, Liu & Matthews (2005) believe that Vygotsky’s theory takes into consideration both the social and the individual because they are closely interconnected, functionally unified, constantly interacting, with the change in one greatly influencing the other, which provides explanation for both social and individual change. In addition, Liu & Matthews (2005) observed that Vygotsky’s concepts in the literature including the social environment of learning and individual consciousness can lead to confusion if concepts are taken literally instead of using the theory as a philosophical orientation underpinning.

Based on Vygotsky’s Theory learning and knowledge construction are social processes that are negotiated through social interactions (Daniels, 2007). In an online community peer-to-peer dialogue can serve as a reinforced foundation for reflective practice and constructivist discovery (King, 2002). Bierema and Merriam’s (2002) research shows how mentoring is possible in an online community of practice and how an online environment can be used to cross boundaries of race, class and gender. Educational literature demonstrates that faculty members with diverse backgrounds and cultural experiences can use an online community of practice to learn from each other in a collaborative environment (Brooks, 2010). Allen (2005) found using Vygotsky’s theory as a guide that an online community could be used for learning that applied directly to the real world enabling members to solve current problems important to the community of practice.
**Digital Ethnography**

Ethnography is a study where the researcher goes into the field and returns to report on their studies of people in everyday settings with specific attention to the participant’s meaning-making process (Anderson-Levitt, 2006). This shared culture of how we interact and learn from each other in a community has traditionally been the focus of ethnographers (Gobo, 2008). In a modern digital society forward thinking researchers have begun to leverage and use online communities and social networking sites to form a new type of research design referred to as Digital Ethnography (Lee, Kim & Kim, 2011). Digital Ethnography describes the process and methodology of doing ethnographic research in a digital space (Murthy, 2008; 2011). Creswell (2009) describes ethnography as “a strategy of inquiry which the researcher studies in an intact cultural group in a natural setting over a prolonged period of time by collecting observational and interview data (p. 13).” Digital ethnography differs from traditional ethnography due to data gathering methods being conducted through the use of computer-mediated communication or digital technology (Murthy, 2011). Hine (2000) discusses how undertaking a digital ethnography need not involve the ethnographer travelling physically to a field site. There is a growing body of literature concerned with the practice of internet and digital ethnography (Ardevol, 2012; Beaulieu, 2004; Beaulieu and Simakova, 2006; Boellstorff, 2008; Burrell, 2009; Hine, 2000; Hine, 2009; Kozinets, 2010; Pink & Postill, 2013). Digital ethnographers gather research data in digital form and determine their significance as they are played out in the context of participants’ lives (Masten & Plowman, 2003). The digital ethnographer will often use a set of tools for understanding and recording the digital space, which may include screen capture software, website archiving tools, and content management systems (Hemmi, Bayne & Land, 2009; Kozinets, 2010).
According to Murthy (2008) online communities can be useful to ethnographers for the purpose of observing the social interactions of members online, gleaning a previously unavailable type of ethnographic data. The emergent literature on digital ethnographic studies refers to similar studies using the terms: hypermedia ethnography, netnography, network ethnography, online ethnography, virtual ethnography and cyber ethnography interchangeably (Carter, 2005; Coffey, Renold, Dicks, Soyinka & Mason, 2006; Hemmi, Bayne & Land, 2009; Howard, 2002; Kozinets, 2010; Murthy, 2008; Murthy, 2011).

In a review of the literature digital ethnographic studies which contained aspects of content analysis were examined. For instance, Carter (2005) used an ethnographic approach to better understand human relationships in cyberspace using the following questions. How are people “living life” in online communities? What kinds of relationships are formed online? Do relationships formed online migrate to other social settings? How are real life and virtual life interwoven in terms of lived experiences? (p 149)

Carter (2005) served as an active participant in an online community "CyberCity" from September 1999 to April 2003. CyberCity has different communities and performs much like a city in that it has a plaza, a beach, a cafe´, a post office, an employment office, a jail and suburbs where the residents can live and interact. The online community “CyberCity” was visited once a day at varying times to collect notes and qualitative data. Carter used additional methods including questionnaires and offline semi-structured interviews. Towards the end of the research study four of the online community members had a face-to-face interview with the researcher to gather more information. Respondents ranged in age from 15 to 63 years. The typical respondent was likely to be female (59 per cent), about 29 years old, and had been living in
CyberCity for 30 months. Carter (2005) found that one of the key themes to arise out of the research was that of friendship and observed that people were coming together on the Internet to inhabit new kinds of social places. The social places were found to exist in a world of places in which time and effort was invested in social interaction. The data revealed that online friendships within CyberCity were formed and maintained in similar ways to those in wider society.

Postill and Pink (2013) research examined the place of digital ethnographic practice across the internet through ‘digital sociality’ where discussions emerged through collaborative, participatory, open and public engagement. They investigated how digital ethnographers use the affordances of social media to understand connecting online through catching up, sharing, exploring, interacting and archiving. Postall and Pink’s (2013) examined ethnographic research ‘intensities’ of social media activity and their repercussions across what they call the ‘messy’ web. According to Postall and Pink (2013) in existing digital ethnographic literature, a messy web has been ordered through concepts such as community, culture and network. They believe that a plural concept of sociality allows researchers to focus on the qualities of relatedness in online and offline relationships offering a better way of understanding how social media practices are implicated in the constitution of social groups, and the practices they engage in together.

A gerontologist’s perspective of an online community was studied by Nimrod (2011) who examined how seniors use online communities for fun and what fun themes emerged from the online communities. The study applied a digital ethnography approach, utilizing a full year’s data from 6 leading seniors’ online communities, which were selected randomly out of 14
possible communities. The final database included about 50,000 posts. The online communities were from the United States, Canada and Britain a global audience. This study was included because it investigated both observations from an online community and the cyber-culture shared among members of the group (Nimrod, 2011). The researchers read each section carefully and generated descriptive codes and categories through open coding. All relevant sections were subjected to cross-case analysis and constant comparison strategies. Constant comparison between investigators’ interpretations, between different texts of a specific forum, and between different forums enabled the generation of preliminary and refined subcategories (Nimrod, 2011).

A digital ethnographic method that was found to be important when looking at online communities includes using content analysis to analyze qualitative data. Perhaps the best example was conducted by Meyer & McNeal (2011) who employed a content analysis to better understand faculty members’ discussions using Chronicle of Higher Education blog posts and comments. This digital ethnographic study demonstrated a variety of methods for data mining when looking at online content or discussions. Meyer & McNeal’s (2011) digital ethnographic research study demonstrated some useful methods for qualitative analysis of online data. In that study each research question required a slightly different approach to analyzing the data collected from the 40 discussions of the Chronicle of Higher Education blog posts. A content analysis of the main topic of each discussion was conducted, by identifying a single one-word description of the discussion which was then grouped into themes. Data were then collected on each discussion and included: 1) number of posts grouped by topic, 2) number of months the discussion had been active, and 3) number of lurkers. This last figure was calculated by dividing
the number of replies into the number of viewers (the figures for replies and viewers were provided by the Chronicle). All coding and analysis were performed by one researcher. This research study was able to provide both a list of main topics that emerged, as well as how often individuals responded to the discussion posts (Meyer & McNeal, 2011).

Hemmi, Bayne & Land (2009) performed another digital ethnographic study that used content analysis to investigate faculty using social media tools in the classroom. Hemmi, Bayne & Land (2009) used a digital ethnographic approach to examine three formal courses in higher education that used social media for the purpose of learning and teaching. All the qualitative data, as well as visual data, were collected and qualitative analysis software, NVivo, was used during the analysis. A form of thematic coding was used via NVivo analysis, which involved searching for key topics to identify conceptual issues throughout the textual data from interviews as well as online textual data obtained mainly from blog sites (p 20). The findings from the study presented a range of student and tutor perspectives which showed that these technologies could have significant potential as a new collaborative tool for learning in the future based on information gained from emerging themes of online data.

Murthy (2008) believes some drawbacks of a digital ethnographic approach including the fact that membership of these communities is inherently restricted to the digital ‘haves’ (or at least those with digital social capital) rather than the ‘have nots’, and ethnic/gender digital divides strongly persist. Some additional ethical issues to consider are informed consent, lurking, privacy, and intellectual property (Carter, 2005; Fay, 2007; Meyer & McNeal, 2011; Murthy, 2008; Nimrod, 2011). Carter (2005) notes that the
limitations to an online research study maybe in verifying if the participants are telling the truth or not. For example, are members who they say they are? An online environment may make it easier to tell lies or even to create fake avatars or accounts. Another limitation to a digital ethnographic study could be a researcher’s own bias affecting the group due to being an active participant in the group (Carter, 2005). Meyer & McNeal (2011) discovered that a possible limitation could be that there were lots of lurkers, who did not express their opinions online or actively participate in the discussions. Gobo (2008) questions the usefulness of digital ethnography due to the possibility of information being lost if only online or written discussions are analyzed instead of using the more traditional face-to-face ethnographic approach. Some researchers argue that combining digital and face-to-face ethnography (i.e. in person interviews via webcams or digital focus groups) can increase data validity through triangulation (Fabian, 2008; Murthy, 2008; Carter, 2005). The above limitations are important to consider for the research design of this doctoral thesis proposal.

The literature review establishes the breadth and depth of literature on online communities, faculty professional development and faculty use of online communities. After a review of the literature, Vygotsky’s theory was chosen to serve as a theoretical lens when further researching online communities and faculty professional development using a digital ethnographic approach. The literature review revealed that more research on the use of online communities for professional development was needed to better understand how faculty in higher education use an online community of practice for professional development in teaching. Currently there is little research investigating specifically faculty online communities therefore a digital ethnographic approach was chosen as the research design. This research study will use a qualitative approach to help inform the current
research and to add a more complete understanding of online communities in higher education.
Chapter 4: Research Design

Research Question

This qualitative research study explored online social interactions within an online community of practice to better understand faculty professional development in teaching. The study, with social constructivism as a guide, explored Tharp’s (1993) seven means of facilitating learning including; questioning, feedback, cognitive structuring, modeling, contingency management, instructing and scaffolding within the Higher Education Teaching and Learning (HETL) online community of practice. The evaluation of the faculty experience using a digital ethnographic approach was used to gain a better understanding of online communities and how online social interactions of faculty members could potentially help to facilitate learning and professional development as well as to augment the body of knowledge on the use of digital ethnography as a methodology. Utilizing a digital ethnography approach and qualitative design the themes found were used to contribute to the knowledge of online communities.

A qualitative digital ethnographic approach was deemed the best method to use for this study due to the limited amount of research currently available and to gain a more in depth understanding of the problem presented. Murthy (2008) noted that online communities can be useful to ethnographers for the purpose of observing the online social interactions of members and gaining insight into previously unavailable types of ethnographic data. Creswell (2007) indicated that qualitative research assists researchers in understanding the context in which participants make decisions about a problem or issue. The Department of Education (2011) has recognized the importance of research on online communities for the purpose of helping educators find ways to continue to grow and learn in collaboration with their peers. The problem
of practice to be examined in this study was a new development in higher education where faculty were using online communities for the purpose of professional development to share ideas, collaborate and discuss best practices in teaching through social interactions. The intersection of this defined need, the increase in use by faculty of online communities, and the minimal research in this area lead to the research question:

The primary research question is as follows:

- Do faculty members in higher education use an online community of practice for professional development in teaching and, if so, in what ways and for what purposes?

Methodology

A digital ethnography (Carter, 2005; Coffey et al., 2006; Hemmi, Bayne & Land, 2009; Howard, 2002; Kozinets, 2010; Murthy, 2008; Murthy, 2011) was used to add additional research to the body of literature currently available for the subject of this thesis. The digital ethnography method was used to investigate the new phenomenon of using online communities for the purpose of faculty professional development as it occurred in the HETL community. Qualitative methods were chosen for this study because online communities of practice involving faculty were a relatively new area of study and our understanding is largely incomplete. These qualitative methods were used to investigate this new phenomenon of using online communities for the purpose of faculty professional development.

For the purpose of this doctoral thesis the term digital ethnography will be used and defined as a form of online and digitally mediated qualitative research, which may include the use of digitally-mediated field notes, digital archives, online participant observation and
online discussions (Murthy, 2011). This study utilized a digital ethnographic approach which included a content analysis to study online discussion board posts in order to address the research question. Discussion board posts from the HETL community were collected and the content was analyzed for key words related to teaching and learning. A major advantage of content analysis in a digital ethnography was that it is unobtrusive and information that might be impossible to be gained through other methods is easily assembled and the researcher is not limited to time or space (Fraenkel & Wallen, 2009). The researcher explored the knowledge sharing and discussions in the HETL LinkedIn group through an in depth evaluation of discussion board posts.

Sites and Participants

Online Community of Practice

The Higher Education Teaching and Learning (HETL) group on LinkedIn was the online community of practice examined in this study. HETL is an independent, nonpartisan, nonsectarian, non-governmental and not-for-profit organization. HETL goal is to advance the scholarship and practice of teaching and learning in higher education. HETL began as a grassroots effort in January of 2010 by Patrick Blessinger (HETL, 2014 https://www.hetl.org/overview/) a Fulbright Scholar and Educator that envisioned creating an online community to bring together faculty members, education professionals and academic leaders from around the world to dialogue, network, and collaborate on effective and meaningful ways to transform teaching and learning in higher education.

The HETL is a highly engaged online community with over 21,000 members as depicted in Appendix I. The number of HETL members has grown at a rapid rate with 104 members in Feb. 2010, 5,500 members in Feb. 2011, 12,000 members in Feb 2012, 22,000 members in Feb.
2013 and over 33,000 members in Dec. 2013 (LinkedIn, 2013). The HETL Community has a diverse group of non-profit and for profit faculty members including adjunct and full-time faculty members who teach online, in-person and/or hybrid classes from both private and public higher education institutions. In addition, faculty members were from a large range of disciplinary areas, countries and teach students from a variety of backgrounds and ages. All HETL community members must request approval by the LinkedIn group manager in order to participate in group discussions, which decreases the amount of spam in the discussion board posts and ensures that members are higher education professionals (LinkedIn, 2012).

The focus of the HETL group on teaching and learning aligns directly with the research design and theoretical framework of the study. The long-term vision of HETL (Higher Education Teaching and Learning Portal, 2012) is to improve educational outcomes in higher education by creating new knowledge and advancing the scholarship and practice of teaching and learning. In addition, the values of the group found on the group’s website http://hetl.org/ include academic integrity, collegiality, and diversity (Higher Education Teaching and Learning Portal, 2012), which are important components mentioned in faculty professional development literature (Brown-Glaude, 2008; Schuster & Finkelstein, 2006; Wenger, McDermott, & Snyder, 2002).

Additionally, the HETL online community uses LinkedIn which is a professional social networking site that is designed specifically for the purpose of connecting professionals online and has more than 135 million members (LinkedIn, 2013). LinkedIn has a group feature where professionals can share information and discuss topics for the purpose of creating an online community for like-minded individuals. Online community member names were kept anonymous to protect the identities of all online community members.
Data collection

Discussion Board Posts

For this thesis, discussion board posts by faculty members were examined from a three month period (May through September 2012) from the HETL online community on LinkedIn. The HETL online community was chosen due to the content and the larger number of members and the active discussions about teaching that have been consistently taking place. Initial discussion board posts were selected based on the number of responses. The goal was to obtain a sample of at least 30 discussion board posts related to teaching and learning that had at least 10 responses each to examine the social interaction for the content analysis. The data collection method was developed based on Meyer & McNeal’s (2011) research that analyzed online content from the Chronicle of Higher Education discussion board and Jalil et al.’s (2008) research that analyzed content in an online learning environment. Each discussion board question was given an ID # for the purpose of coding and tracking responses in NVivo.

NVivo 10, a qualitative software system, was used to collect the online data. NVivo’s NCapture web browser extension for Internet Explorer gathered discussion board posts from the LinkedIn group. Using NCapture, the content, text and hyperlinks were collected into a file that could then be imported into NVivo. The most popular LinkedIn HETL discussion board posts that were downloaded by NCapture had at least 10 comments during the timeframe of May to September 2012.

The design of the study enables individuals to continue posting to the discussions boards, so that data collected from discussion board posts will have likely changed over time from day to day and from person to person. For instance even a discussion board post that is months old can continue to gather responses well into the future. In addition, NVivo only allows collection of
discussion board posts that are active in the past 3-6 months which further protects the identities of the members in the HETL LinkedIn group. Additionally, all LinkedIn discussion board posts were paraphrased slightly to make discussion board posts harder to find through a search in LinkedIn which further protects members of the group.

Data analysis

Discussion Board Posts and Coding

Hemmi, Bayne & Land (2009) used a digital ethnographic approach and content analysis which served as a model for this research project, as well as a guide to better understand the qualitative analysis of data using the software program NVivo. NVivo 10 in this study was used to analyze content, identify trends in key words and to assist the researcher in coding and identifying emerging themes. Initial discussion board posts were screened and selected based on whether or not they were created by a faculty member (including full-time or part-time, tenured or non-tenured, tenure track or adjunct faculty that teach online or in the classroom). In addition, the data from discussion board posts from May to September 2012 were further sorted by references to teaching practices. Teaching practices were defined as references to student learning in higher education. The NVivo analyses involved identifying recurrent themes and emerging topics from the online HETL content which were affixed to nodes and/categories to facilitate the data analysis. Nodes were representation of variables used to guide the researcher during the coding process. NVivo permitted the researcher to have flexibility in identifying topics for a variety of nodes allowing for free flow of the thematic process. The nodes were developed simultaneously as the researcher read, compared, contrasted and analyzed the data. In addition, the number of times a particular word was used in the discussion board posts was counted and evaluated.
The study examined content to identify if members of the HETL Community were using Tharp’s (1993) “Seven Means of Facilitating Learning” within the discussion board posts. Tharp further expanded on Vygotsky’s Theory and provided a summary of the types of assistance which have been seen to provide scaffolding to bring the performance of the learner through the ZPD. Using social constructivism as a guiding theoretical lens the study examined whether or not these more complex forms of assistance were observed among a group higher education faculty in an online community of practice. Tharp’s seven means of facilitating learning were critical to examine since they could help clarify how faculty use social interactions to move through the ZPD in regards to teaching professional development and learning.

Table 2 outlines Tharp’ (1993) seven means of facilitating learning including; questioning, feedback, cognitive structuring, modeling, contingency management, instructing and scaffolding. This study examined whether or not these more complex forms of assistance were observed among a group higher education faculty in an online community of practice. In the same way as an ethnographer in the field observes individuals, this researcher ‘observed’ through words and themes whether the concepts outlined by Tharp were in evidence. The categories found in Table 2 were important since they helped clarify how faculty were using social interactions to move through the ZPD in regards to teaching professional development and learning. After reading each discussion board post NVivo was used to code data and note whenever Tharp’s seven means of facilitating learning were observed to have taken place in the online discussion. The researcher used Table 2 to stay consistent with coding and to accurately identify if questioning, feedback, cognitive structuring, modeling, contingency management, instructing and scaffolding occurred within the discussion board posts. The category “questioning” was used as a prompt, to stimulate thinking and to provoke creations by the group
members on the topic of teaching. “Feedback” was used when the individuals in the group provide information (positive or negative) on specific acts, performance, or situations or acknowledge a contribution in reference to teaching. “Cognitive Structuring” was described as a means of assistance whereby the more knowledgeable peer provided structure for thinking and acting that helped the learner organize information and experiences related to teaching. “Modeling” was offering behavior for imitation related to teaching. “Contingency management” was application of the principles of reinforcement and punishment to behavior related to teaching practices. “Instructing” requested specific action and it assisted by selecting the correct response and by providing clarity, information and decision making. “Scaffolding” referred to the help, guidance, assistance, suggestions, recommendations, advice, opinions, and comments that the peer provided to guide the learner in mastering the materials and gaining a higher level of understanding. The study examined which of these categories were most commonly used by members of the group in an online community of practice to better understand how faculty members were learning about teaching from online social interactions in the discussion board posts. Coding of keywords related to the categories allowed for a more complete analysis of obtained data.
Table 2 Tharp’s Seven means to bring the performance of the learner through the Zone of Proximal Development

<table>
<thead>
<tr>
<th>Seven Means of Facilitating Learning</th>
<th>Criteria for Content Analysis</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questioning</td>
<td>It calls for an active linguistic and cognitive response and is used as a prompt, to stimulate thinking and to provoke creations by the group members on the topic of teaching. If the question is meant to provide assistance to the reader, then it is in this category.</td>
<td>A request for a written response that assists by producing a mental operation the learner cannot or would not produce alone. This interaction assists further by giving the assistor information about the learner's developing understanding.</td>
</tr>
<tr>
<td>Feedback</td>
<td>Used when the individuals in the group provide information (positive or negative) on specific acts, performance, or situations or acknowledge a contribution in reference to teaching.</td>
<td>Feedback is essential in assisting performance because it allows the performance to be compared to the standard and thus allows self-correction. Ensuring feedback is the most common and single most effective form of self-assistance.</td>
</tr>
<tr>
<td>Cognitive Structuring</td>
<td>It is a means of assistance whereby the more knowledgeable peer provides a structure for thinking and acting that helps the learner organize information and experiences related to teaching.</td>
<td>“Explanations” - Cognitive structuring assists by providing explanatory and belief structures that organize and justify new learning and perceptions and allow the creation of new or modified schemata.</td>
</tr>
<tr>
<td>Modeling</td>
<td>Modeling is offering behavior for imitation.</td>
<td>This occurs when a more knowledgeable peer demonstrates the behavior of imitation or modeling.</td>
</tr>
<tr>
<td>Contingency Management</td>
<td>Contingency management is application of the principles of reinforcement and punishment to behavior related to teaching practices.</td>
<td>It is used by the more knowledgeable peer to reward desired teaching behaviors through praise/encouragement, or to control undesirable behaviors through punishment in the form of reprimand/censure.</td>
</tr>
<tr>
<td>Instructing</td>
<td>Instructing requests specific action and it assists by selecting the correct response and by providing clarity, information and decision making. This often occurs when a more knowledgeable peer provides explicit instructions or resources in this case related to teaching.</td>
<td>It is most useful when the learner can perform some segments of the task but cannot yet analyze the entire performance or make judgments about the elements to choose.</td>
</tr>
<tr>
<td>Scaffolding</td>
<td>Scaffolding refers to the help, guidance, assistance, suggestions, recommendations, advice, opinions, and comments that the peer provides to help the learner master the materials and move to a higher level of understanding.</td>
<td>It assists learners by modifying the task itself, so the units presented to the learner fit into the Zone of Proximal Development when the entire structured task is beyond that zone. The goal is to actively engage the learner while providing only the necessary supports for eventual independent use of such strategies.</td>
</tr>
</tbody>
</table>

Adapted from (Gallimore & Tharp, 1990; Jalil et al., 2008; Kirkley, Savery, & Grabner-Hagen, 1998)
Content was sorted and sifted to identify similar phrases, shared sequences, relationships, topical themes and distinct differences using Vygotsky’s and Tharp’s theory to help guide the analysis. Memoing and adding nodes to the data further guided the researcher when using NVivo. NVivo used categories called “nodes” to classify and sort the data. Predetermined nodes were determined using Tharp’s (1993) seven means of facilitating learning (i.e. scaffolding, feedback, cognitive, structuring, modeling, contingency management, instructing and questioning) for coding of the data. Additional nodes were determined from the emerging data and themes and were coded to guide the researcher when conducting the content analysis using a digital ethnographic approach. These analyses were critical to understanding common themes that emerge from faculty members’ discussion posts in the HETL online community related to professional development and teaching.

NVivo was used to guide the researcher in managing and analyzing the qualitative data which made the search for information systematic and helped to organize the data visually making it easier to find key words and themes. However, though NVivo helped the researcher in organizing the data the researcher was still responsible for making sense of the patterns arising from the emerging themes through carefully reading each line of the discussion board posts and effectively coding and analyzing the qualitative data. The software did not replace the interpretations brought to the study by the researcher which were based on the researcher’s own research and experiences in higher education, online communities and with social constructivism.
Validity and Credibility

Since the researcher is a current member of the online group and teaches classes in higher education it is possible that researcher biases could occur. However, since contemplating the study, the researcher did not participate in any discussion board posts on the HETL online community to remove such potential bias. The researcher has taken on the role of being an observer within the community to reduce biases from occurring unintentionally during the content analysis. In addition, the researcher’s previous background in teaching in higher education is beneficial to develop accurate emerging categories during the coding process due to the familiarity with the topic being discussed. Also, having one person code the data will help to maintain consistent categorization which is likely to improve the validity and accuracy of the data.

To maintain validity all information was coded and categorized with a logical and organized format using NVivo, memos and electronic note taking. NVivo increased the validity of the study by visually viewing the data through tag clouds, tree maps and word trees which will facilitate identification of the most frequently appearing words and themes in the content. As previously noted, a possible limitation with the study is that “lurkers” thoughts in the discussion board posts were not be captured since they were not active visible participants in the discussion board posts (Walker, Redmond, & Lengyel, 2013).

The methodology protected the members of the community by keeping data anonymous. Collecting content from multiple discussion board posts enabled triangulation of the data to increase the accuracy, validity, and credibility of the data (Creswell, 2009). In addition, external validity was established by linking the content findings to Vygotsky’s Theory and Tharp’s seven means of assisting performance and facilitating learning (scaffolding, feedback, cognitive,
structuring, modeling, contingency management, instructing and questioning) which served as the framework for the doctoral thesis. Reliability was established by carefully documenting each step of the research process and through using NVivo to help electronically organize data as it was collected.

Protection of Human Subjects

Participation in this research study did not present obvious risks. The study documented all research practices and it did not impose any treatment that may have negative consequences for faculty. Participation in the project did not put the wellbeing or rights of faculty at risk. The goal of this research was to learn how faculty members in higher education use an online community of practice for professional development in teaching, which involved a content analysis of discussion board posts with faculty members in the “Higher Education Teaching and Learning” online community.

Discussion board posts were selected from the date range of May to September 2012 and no discussion board posts were excluded on the basis of age, gender, ethnicity, race, socioeconomic level, literacy level, or health. Only the researcher and the researcher’s faculty advisor have access to the research data. The emerging research on digital ethnography studies has been extensively reviewed (Kozinets, 2010; Murthy, 2008; Murthy, 2011) to address ethical and legal issues related to rapid changes in internet research. It has been determined that content (online text) posted in the “Higher Education Teaching and Learning” is already public information. According to the Code of Federal Regulations (2009) if the research involves collecting and analyzing existing documents or records that are publically available, this research qualifies for a human subject’s exemption. Walther (2002) writes, “any person who uses
publicly-available communication systems on the internet must be aware that these systems are, at their foundation and by definition, mechanisms for the storage, transmission, and retrieval of comments (p. 207).”

A common privacy concern for digital ethnographers is if direct quotes from online communities are used since Googling or searching of such direct quotes could possibly be used to identify participants. Boellstroff (2008) suggests using anonymous names and paraphrasing quotations to make information more difficult to find using a search engine. Therefore discussion board posts were paraphrased to further protect members of the group. Additionally, since a 2012 data set was used in the study this further protects members in the group since LinkedIn makes it difficult to search for discussions board posts and information that is more than a year old.
Chapter 5: Report of Research Findings

Introduction

Using a digital ethnography approach the researcher analyzed 1,367 comments from 32 discussion board posts from 513 participants in the HETL LinkedIn group. The research question examined is how do higher education faculty members use an online community of practice for professional development in teaching? The findings revealed that 6 of Tharp’s 7 means of facilitating learning (questioning, feedback, cognitive structuring, contingency management, instructing and scaffolding) were found in the discussion board posts; however, modeling was not found in any of the discussion board posts. The research study observed that social constructivism was being used by members of the HETL community for the purpose of learning and sharing information. There were four major themes that emerged from the HETL online community which included “Best Teaching and Learning Practices”, “Challenges in Teaching and Learning”, “Faculty Resources and Professional Development” and “Technology”.

Population

The population for this study included members from the Higher Education Teaching and Learning (HETL) LinkedIn group with over 22,000 members (LinkedIn, 2013). A total of 32 discussion board posts were examined with 1,367 comments from the date range of May to September 2012 (Table 3). The 32 discussion board posts selected had a range of 10 to 246 comments as shown in Table 3. The study included a total of 513 participants from the HETL LinkedIn community from 59 countries. The 513 participants that commented on the discussion board posts had a mean number of 172 LinkedIn connections. All of the 32 discussion board posts analyzed were related to teaching and learning and were given an ID # 1-32 for coding purposes as shown in Table 3.
<table>
<thead>
<tr>
<th>ID#</th>
<th>Discussion Board Topic</th>
<th># of Comments to Discussion Board Topic</th>
<th>Total # Participants in Discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Do you think technology can make students more intellectual?</td>
<td>34</td>
<td>19</td>
</tr>
<tr>
<td>2</td>
<td>Are there ways Higher Education can be more student friendly? How can faculty solve the problems of psychological and physical absence of students?</td>
<td>16</td>
<td>13</td>
</tr>
<tr>
<td>3</td>
<td>Is it possible for a faculty member to conduct a valid written assessment/exam in an online class? How can you be sure that the student has done the work?</td>
<td>35</td>
<td>20</td>
</tr>
<tr>
<td>4</td>
<td>Is it possible that MOOCs could change higher education in the same way that emails changed the postal service?</td>
<td>81</td>
<td>25</td>
</tr>
<tr>
<td>5</td>
<td>What are some of the main challenges facing universities?</td>
<td>58</td>
<td>28</td>
</tr>
<tr>
<td>6</td>
<td>What do you think is the biggest mistake a faculty member can make on the first day of class?</td>
<td>87</td>
<td>65</td>
</tr>
<tr>
<td>7</td>
<td>What suggestions do you have for a student who just won't play or engage in class?</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>8</td>
<td>What do you think is the theoretical basis of modern educational practices and is it based on scientific knowledge or intuition?</td>
<td>99</td>
<td>31</td>
</tr>
<tr>
<td>9</td>
<td>What are some of the best ways to teach the first day of class?</td>
<td>26</td>
<td>23</td>
</tr>
<tr>
<td>10</td>
<td>What do you think international students being taught in a second language consider important in a class?</td>
<td>36</td>
<td>18</td>
</tr>
<tr>
<td>11</td>
<td>Do you think that fall freshmen need to hear that &quot;They are not Special?&quot;</td>
<td>23</td>
<td>18</td>
</tr>
<tr>
<td>12</td>
<td>Do you think faculty should print or not print out handouts for class?</td>
<td>26</td>
<td>20</td>
</tr>
<tr>
<td>13</td>
<td>What are your thoughts about textbook prices &amp; policies?</td>
<td>19</td>
<td>16</td>
</tr>
<tr>
<td>14</td>
<td>In what ways can faculty teach students how to think?</td>
<td>39</td>
<td>24</td>
</tr>
<tr>
<td>15</td>
<td>How do faculty members teach students about plagiarism?</td>
<td>90</td>
<td>24</td>
</tr>
<tr>
<td>16</td>
<td>Do you think teachers lacking enthusiasm simply should not be teaching? How can we inspire teachers?</td>
<td>44</td>
<td>22</td>
</tr>
<tr>
<td>17</td>
<td>Do you think students should choose what they're graded on?</td>
<td>28</td>
<td>15</td>
</tr>
<tr>
<td>18</td>
<td>What are some tips on effective teaching and/or training?</td>
<td>24</td>
<td>19</td>
</tr>
<tr>
<td>19</td>
<td>Self-insight and professional competence for the teacher and student</td>
<td>44</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------------------------------------</td>
<td>-----</td>
<td>----</td>
</tr>
<tr>
<td>20</td>
<td>Do you think that online and distant learning classes cut costs and human contact?</td>
<td>37</td>
<td>13</td>
</tr>
<tr>
<td>21</td>
<td>How can we use Mobile apps for higher level learning?</td>
<td>39</td>
<td>17</td>
</tr>
<tr>
<td>22</td>
<td>If you could go back in time and speak to your younger self at the start of your teaching career, what advice would you give yourself?</td>
<td>68</td>
<td>51</td>
</tr>
<tr>
<td>23</td>
<td>Students seem to be using laptops in class for everything but studying. Should student technology be allowed in the classroom?</td>
<td>246</td>
<td>112</td>
</tr>
<tr>
<td>24</td>
<td>Are visual aids important in teaching and in what ways should they be used?</td>
<td>39</td>
<td>22</td>
</tr>
<tr>
<td>25</td>
<td>It is time to create your Syllabus - What are some ways to generate discussion on the first day of class?</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>26</td>
<td>Should we be teaching students the importance of &quot;failing&quot;?</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>27</td>
<td>Should faculty say yes to cell phones in class?</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>28</td>
<td>What is your experience with bad professors?</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>29</td>
<td>What would be some good faculty teaching program topics?</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>30</td>
<td>What are your thoughts about teaching theory related to Theory of Competence?</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>31</td>
<td>How can you align your teaching philosophy with assessment practice?</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>32</td>
<td>Resources and tips for learning about your students starting the first day of class?</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Overall Total</td>
<td>1367</td>
<td>513</td>
</tr>
</tbody>
</table>

The HETL Community had a diverse group of faculty member participants contributing to the discussions including adjunct and full-time faculty members who taught online, in-person and/or hybrid classes from both private and public higher education institutions across the globe. In addition, faculty member participants were from a large range of disciplinary areas and taught students from a variety of backgrounds and ages. Some titles of participants discussion board posts included Academic Researcher, Adjunct Professor, Assistant Dean, Assistant Professor, Associate Dept. Chair, Associate Professor, Chairperson, Dean, Director, Doctoral Researcher, Emeritus Professor, Full Professor, Lecturer, Professor Emeritus, Postdoc/PhD Student, Provost, Senior Lecturer, Senior Teaching Fellow, Senior Vice President, Vice President and Visiting
Professor. Faculty members were from a variety of disciplines including Accounting, Anthropology, Art, Biology, Business Administration, Chemistry, Communications, Computer Science, Counseling/Mental Health, Economics, Education, Engineering, English, Foreign Languages, Geography, Healthcare, Higher Education, History, Humanities, International Affairs, Law, Management, Marketing, Media Studies, Medical, Neuroscience, Nursing, Philosophy, Physics, Psychology, Political Science, Sociology, Technical Education and Theology.

**Tharp 7 Means of Facilitating Learning**

Out of 32 discussion board topics (Table 3) 1,367 comments were analyzed (Figure 4) to explore how members in the HETL online community of practice were using Tharp’s 7 Means of Facilitating learning. The findings indicated that the HETL online community of practice did use questioning, feedback, cognitive structuring, contingency management, instructing and scaffolding in the discussion board posts. However, modeling was not found to occur in any of the online discussions. Cognitive structuring, feedback and scaffolding were found in all 32 discussion board topics examined (Figure 4). Contingency Management was observed in 30 discussion board topics. Questioning was found in 29 discussion board topics and instructing was found in 24 discussion board topics.
Feedback

Out of 1,367 comments there were 1,110 references to feedback (Figure 5). Feedback was defined as occurring when the individuals in the group provide information (positive or negative) on specific acts, performance, or situations or acknowledged a contribution in reference to teaching. Faculty gave both positive and negative feedback on students, learning, teaching, educators, classes, research, online experiences, lectures and technology. Feedback by participants was given on a variety of topics including the use of laptop computers and phones in class. For instance, one participant gave positive feedback regarding the usage of laptop computers and phones in class which included, “I think you’ve got the right approach. Personal technologies are not going to go away, so we need to exploit them for teaching and learning whilst also giving ground rules about what is acceptable and courteous.” Another participant gave negative feedback about personal use of laptops and phones in class “I have a strict policy of no personal portable electronic devices in use during class. I see the classroom as a sanctuary
away from the distractions of the outside world.” These were examples of feedback and how different perspectives about teaching were discussed helping to facilitate learning of the group through social constructivism.

**Scaffolding**

Out of 1,367 comments there were 1,034 references to scaffolding where participants helped, guided, assisted, suggested, recommended, advised and gave opinions on discussion board comments to help their peers move to a higher level of understanding. Scaffolding was the most common learning theme which was found in over 75% of the discussion board comments. It was observed that participants used scaffolding to assist learners in moving through the Zone of Proximal Development. Scaffolding was found in topics that included discussions about students, learning, lectures, teaching, educators, courses, technology and research. An example of scaffolding included when a faculty member guided their peers into better understanding of grading practices when teaching. For example, a faculty member wrote that “Often, the feedback that students receive on their assignments appears too late in the semester to be helpful. In fact, such assignments tend to pile up until the last week of class, at which point the instructor finds the opportunity to grade them. Happens all the time, but in my opinion it shouldn't.” It was commonly observed that faculty would give advice and information on best teaching practices providing scaffolding for members of the group guiding them through the ‘Zone of Proximal Development’.

**Cognitive Structuring**

There were 1,009 references to cognitive structuring (Figure 5) where the more knowledgeable peer provided a structure for thinking that helped the questioner organize information and experiences related to teaching. Cognitive structuring was observed in 74% of
all discussion board comments providing explanatory structures that organized and justified new perceptions and allowed for the creation of new or modified schemata. Cognitive structuring was found in a variety of topics in the discussion board posts including teaching, learning, students, educators, classes, research, discussions, technology, online learning, experiments and lectures.

An example of cognitive structuring was observed when a faculty member (more knowledgeable participant) explained best practices in online learning for members of the group. The participant wrote, “Often online learning is set up as broadcast and not as a dialogue. Lectures are generally a poor learning system face to face; translated into the online setting they are even worse. The best distance learning is rich in opportunities for creating dialogues, feedback and collaboration which help promote reflection and engages participants in learning by doing”.

Additionally, cognitive structuring was shown in response to the question if you could go back in time and speak to your younger self at the start of your teaching career, what advice would you give yourself? One faculty member wrote, “Great question, and a few things after 25 years. Don't stress content over comprehension and learning. It is more important for students to learn essential concepts and theories than trying to cover everything in the chapters you assign. Spend more time discussing material, listening to students, observing their faces and actions, encouraging critical thinking, and playing devil's advocate. Spend less time preaching, criticizing, finding fault, acting as if you know everything, and feeling threatened by willful or overachieving students. Lastly, remember the learning takes place in the students minds and hearts, and you are a conduit, and not the only in the process. Sometimes learning means stretching, and building brain muscle and some students may feel the aches and pains.” This is
an example of cognitive structuring being used by a more knowledgeable peer to provide structure and information for the less knowledgeable participant to share knowledge regarding best teaching practices. Cognitive structuring was frequently observed in the HETL online community and appeared to help members assimilate new information to existing knowledge allowing for members of the group to make the appropriate modifications to their existing intellectual framework.

*Contingency Management*

There were 513 references (Figure 5) to contingency management which consisted of 38% of the discussion board comments. Contingency management was observed when the more knowledgable peer used praise or discouraged behavior in discussion board comments. Participants who agreed with thoughts, discussions or opinions about a topic wrote comments like "I applaud your mention", "I am totally for this approach", "I absolutely agree", "Outstanding", "Great discussion", "I think you have a good point", "I love all the comments", "What a great question", "I think that is a good point", and "I agree wholeheartedly".

Participants that discouraged thoughts, discussions or opinions about a topic wrote comments like "I would warn", "I disagree with your view", "That is a misconception", "This framework is wrong", "I am fully against" and "I don't agree". Contingency management was found in a variety of discussion board comments about students, learning, teaching, educators, classes, research, discussions and technology.

An example of contingency management could be seen when faculty members were discussing if students should be allowed to choose their own grade. For instance one faculty member praised the idea of allowing students to choose their own grades. The participant wrote, “I am totally for this approach. It is based on the student centered teaching and learning
paradigm. I believe that this proposal takes it a step further. It opens the possibility of 'student centered assessment'. In my opinion, this is a revolutionary way of 'breaking the box'. The box says that educators must assess the students’ work. Breaking the box says 'students' should assess their own work based on rubrics that they create and agree on’.

In contrast another faculty member strongly disagreed with the idea of allowing students to select their own grades. This participant wrote, “The problem is that the instructor is placing the students in a guessing game as to which grade is appropriate. Students are not trained in assessment and are under no contractual obligations to provide fair grades to themselves or their peers. If a student wants to give themselves an A, they can. On the flip side, there is no recourse for a student if they give themselves a lower grade than they deserved. Allowing students to grade each other or themselves has ‘bad idea’ written all over it because how can the possibly grade themselves objectively. The university pays its instructors to undertake this responsibility. As far as I am concerned, a professor has no right to transfer that responsibility onto others.”

**Questioning**

Questioning included comments that were used as a prompt to stimulate thinking and to provoke creations by the group members on the topic of teaching. Questioning included comments that requested a written response and interaction to assist in learning. Out of 1,367 comments there were 143 references to questioning (Figure 5). Some key discussion board questions included; "What are", "Are these", "How will", "What's your evidence", "What do", "How do you think", "Have you ever thought", "Can you direct me", "Could you elaborate", "Can anyone recommend", "What kind", "Does anyone know" and "What do you want".
**Instructing**

There were 118 references to instructing which consisted of 9% of the discussion board post comments. Instructing included posts where the more knowledgeable peer provided clarity, information and decision making by providing explicit instructions or resources to members in the group regarding a topic related to teaching and learning. The study found that faculty would instruct their peers primarily through providing additional resources that included references and links to relevant journal articles, books, theories, videos, news articles and websites related to teaching and learning.

![Figure 5: HETL Discussion Board Comments Referencing Tharp’s Seven Means of Facilitating Learning](image)

**Emerging Themes**

After reading 1,367 comments and analyzing content using NVivo there were four major themes that emerged from the HETL online community which included “Best Teaching and Learning Practices”, “Challenges in Teaching and Learning”, “Faculty Resources and
Professional Development” and “Technology”. These themes were key findings in understanding how faculty members were using social constructivism in an online community to share ideas, collaborate and discuss topics related to teaching and learning.

**Best Practices in Teaching**

‘Best Teaching Practices’ in teaching and learning were a consistent theme in the discussion board comments. Faculty members were observed to share comments, advice and opinions about best practices on a variety of topics including assessment, course design and engaging students in learning. A key word frequency was conducted using NVivo on 1,367 discussion board comments and determined the ‘Top 30 Key Word Frequency’ (Appendix). The research showed that the top four key words included ‘students’ (count 2,149 & weighted percentage 2.59), ‘learns’ (count 1,206 & weighted percentage 1.45), ‘teaching’ (count 809 & weighted percentage .97) and ‘educators’ (count 702 and weighted percentage .85) which aligned with the mission of the HETL group in sharing information about teaching and learning.

In was shown in the LinkedIn Group that faculty members were discussing best practices in evaluating and measuring student performance using assessment. Participants wrote that successful assessment included ensuring that the curriculum design and assignments were aligned with clearly defined learning outcomes. Faculty shared ideas, experiences, research and opinions on best practices on measuring students learning. It was observed that assessment of students both in online and in-person classes was a topic discussed by participants in the group.

Additionally, faculty members discussed best practices in setting the learning bar high for students. One faculty member wrote, "I would remind myself that most students will only rise to the expectations I set for them. If I expect less, and keep the bar low, that's where their learning will stop. But if I expect the best, articulate that to students, and keep looking for ways to help
them get there, the outcome will be amazing. Some of my favorite moments in teaching have
taken place when a student surprised him/herself with what they were able to accomplish”.

Another best practice that emerged was teaching students that failure is sometimes part of
the learning process. One commenter wrote, “Students are tougher than they look. Work very
hard early on to build a relationship, to show them by your hard work and preparation that you
care about them and are deeply invested in their success. After that, be as blunt as necessary
when they perform below their best.” Another faculty member commented, “Education has
failed our students when it comes to giving them the joy of making mistakes and having to deal
with the internal dialogue that keeps them going back to solve a problem. It takes time and
patience to learn to solve problems. More importantly however, is teaching them that they can
and should try repeatedly to understand complex issues before giving up. Dealing with brick
walls is an important life skill.”

Another faculty member wrote that though they received no formal training in teaching
theory from their experience they believed that storytelling was an important part of the teaching
process. “I know almost nothing about pedagogical theory, "best practices” or whatever.
However, as a professor, I am asked to "teach" (a lot). But I have never in my life had a single
course on how to teach; it is not a prerequisite for getting a job as a "teaching" professor. So,
how do I teach my courses if I "don't know how to teach?” I think I am basically a story teller
that tries to seduce my students into my field of expertise by telling stories and providing
experiences that I hope will cause their imaginations to catch fire, and then maybe I'll leave
behind a few apprentices.”

Additional themes that emerged from “Best Practices in Teaching” were topics related to
course design such as diversity, syllabus, office hours, mentors, flipped classroom, teaching
lifelong learning skills, teams, and textbooks. Faculty discussed best practices related to teaching classes with students from diverse backgrounds and cultures including students with disabilities, veterans, international students, students of color and socioeconomic backgrounds.

A popular discussion was how to best engage with students on the first day of class. Some tips that faculty members gave for the first day of class included; letting the students know who you are as a teacher, having students introduce themselves, knowing the preferred name of each student, learning why they are taking your class, having a photo of students in class, understanding their goals in life, gathering student expectations for the course, obtaining best contact information (phone & email), laying a foundation for trust and caring, demonstrating organization and clarity in the course design, introducing required textbooks, reviewing the syllabus, announcing office hours, creating a culture of open and appropriate communication and providing expectations from the teacher for the class.

Another emerging topic related to best practices in course design was how faculty members could teach students skills in teamwork, problem solving and lifelong learning. One faculty member wrote, “Once you teach these students to work in teams they do it very well, I find. Working in a team does not happen 'automatically'. Working in a team, critical analysis, self-evaluation, the ability to think and explore are the skills people need now and in the future, whether they have studied engineering, law or philosophy. I believe our role is to help them acquire these skills in the course of our teaching by having them question us and our methods, having them do self and peer evaluations, individual and group work.” Another participant commented, “The way you question students and the way you structure the assignments given will help facilitate higher order thinking, which will lead to complex, higher order independent thinking & problem solving. Use words such as ‘compare’, ‘in your opinion’, ‘analyse’. But
you will also have to teach students what you expect from them and what is required of them when they have to ‘compare’ and ‘criticize.’” Faculty members’ discussions appeared to help prepare them for teaching students how to become critical thinkers, lifelong learners and problem solvers through the sharing of best practices and experiences.

The research showed that faculty members discussed best practices in engaging students in the learning process. Faculty members suggested asking open ended questions, talked about the importance of becoming a better listener, not being afraid of silence and not being afraid to say you don’t know. A faculty member commented, “Students don't care how much you know, until they know you care about them and your desire to help them succeed.” Faculty members gave examples of encouraging students to participate in class by using fun, the joy of teaching and enthusiasm in the classroom. One participant wrote in regards to engaging students in the learning process “It's Enthusiasm (movement, gestures, voice - but also questioning techniques and interaction with the students). It's Clarity of the material (organization of the content, assignments, concepts). It's Variability (of instructional methods, materials, visuals, activities, engagement, types of assessment). It’s being task oriented and concerned with learning. It’s giving students to learn the objectives, teaching to them and ensuring there is a relationship between the objectives and the instruction and assessment. It's developing Respect and Rapport (being interested in students, being compassionate, concerned about student success). It's having a commitment and desire to teach (loving your job, wanting to teach, enjoying it). It's giving the subject matter meaning (making real-life connections, applications, and practical meaning). It's engaging students (asking questions, encouraging participation). It is knowing your subject (having experience and being knowledgeable about your topic - but having the ability to make
connections to real-world). It's making learner accommodations (matching learner ability, level, and learning style).”

Faculty also discussed best practices in what ‘not to do’ as a teacher. For instance faculty stated that it was important to make sure you ‘do not’ have too many slides, just ignore chattering and speak louder, show no enthusiasm for your subject, fail to engage the student from the first class, come to class unprepared, try to cram too much information into one class, waffle (make your objectives and expectations known) and not establishing some dialogue to generate some energy in the class. The research findings showed that faculty members shared ideas, experiences and best practices in teaching on both what you should be doing and what you should not be doing as a teacher which appeared to help move them through the ‘zone of proximal development’.

*Challenges in Teaching and Learning*

It was observed that faculty members discussed a variety of "Challenges in Teaching and Learning". Some of the challenges discussed included large class sizes, cost of education, increased need for accountability, employment after graduation, grade expectations, plagiarism, cheating, students sleeping in class, students thinking that they are 'special', retention and politics in higher education. One faculty member commented, “Key challenges which universities will have to prepare for in the next three to five years are, the changing dynamic of teaching, enticing the best to the university while operating under budgetary constraints, and offering broad areas of study and research while continuing to maintain excellence in both. No longer do students, all with common language, goals and expectations, sit and listen to an instructor who simply shares their wealth of knowledge with them. This is true at all levels of education and universities globally need to respond to the new type of student who will be applying to their institution”.
The need to prepare students with skills for employment and the increasing costs of higher education appeared to be a real challenge for faculty members, students, parents and higher education administration. Interestingly rising tuition costs seemed to be a global challenge discussed by faculty members from several countries. A participant wrote, “Very interesting to see the similarity in HE issues that are affecting several countries. I see the major challenge as finding a balance between the consumer's (student and parent) demand for more relevant and practical higher education (especially with increased fees) that will result in real jobs v. the need to retain courses (that include the necessary theoretical focus) and research programs that add value to the knowledge base of each discipline.”

Another faculty member wrote that faculty members expect students to be as excited about education and college as the faculty but the reality is that students may have a different frame of reference. One participant wrote “I usually tell our faculty at orientation (and remind them of it thereafter) that one of their teaching slogans should be: "Our students are not us.”

There is research showing that relatively few students enjoy school (especially high school) the way it is usually run and taught. Those who are successful in that environment mostly are able to pay attention for a more sustained period of time. Obviously, they carry these expectations forward into a college environment. At the same time, as you note, most people who become professors loved school, loved learning, did well at it, and they assume that others will as well. When that doesn't happen, it is ripe ground for the Fundamental Attribution Error and other biases that further distort our understanding of students.”

Another challenge discussed was how faculty members have traditionally been rewarded in academia for conducting research instead of teaching. A member of the group noted, “I have been concerned for a while now that there has been an over-emphasis on research and 'being
published' (to secure and retain positions), rather than real learning experiences for students. As research funding becomes harder to obtain, and consumers demand better educational outcomes, will universities be forced to tip the scales back towards the student experience (albeit with a more practical edge) and thereby achieve that balance? Or will they force lowering of teaching quality through more class facing hours, larger class numbers, etc. in order to manage reduced income? Unfortunately, it seems that the lowering of teaching quality is already happening in some universities.” Some faculty members noted that though politics and institutional frustrations could be a challenge it was important to keep priorities straight and focus on the importance of teaching and connecting with students.

Plagiarism and not citing references properly were additional challenges faced by the HETL members. A member wrote, “I have always regarded plagiarism as a form of breaching copyright principles, if not the actual Act, and not a separate activity. Put simply, plagiarism is "stealing" another person's stuff. Most students get this. So, perhaps rather than only having a "bashing" tool and catching people, like the Police (via Turnitin), why not devote some time to ethics in advance in each subject taught. This it seems to me has two benefits. One is a way to spread ethical behavior and the other is to have students understand why copying without understanding is not much use to them in the long run.” Some faculty members discussed how cultural differences come into play and how international students may have more difficulty with paraphrasing information and may not fully understand the idea behind citing information properly.

In addition, the group discussed the challenge of students thinking they are ‘special’ and the importance of teaching students the importance of hard work and determination. One faculty member wrote, “The idea that everyone is special and that everyone is a winner is ridiculous
because that is not how the world works.” It was discussed how the ‘Helicopter Parents’ need to be reminded that their sons/daughters are not getting special privileges and they are not an exception. One faculty member wrote, “when everyone gets a trophy, no one is special and the effort to try diminishes, and if everyone thinks they are "one of the best” who, then, is the comparison against? There is something to be learned and gained from the experience of not being the best or even good enough.” Faculty discussed the increasing challenge of students thinking they deserve an ‘A’ and that no matter how the student performs in class they believe they are owed good grades and that this is not reality in college or the working world.

Faculty members commented on the challenge of the ‘sleeping student’ in class. A faculty member noted, “Don't beat yourself up over the one kid sleeping in the corner. It's not always about you being “boring”, especially if you're bringing your A-game and engaging the rest of the class. That kid may have worked an overnight shift, may have a younger brother keeping him up at night, or may have been partying. I learned that lesson time and time again when I was sure that I was doing something wrong, only to find that the student had an individual challenge that was all his own.” It was found that faculty frequently shared information and experiences like the above that could help members of the group move through the ‘zone of proximal development’.

*Faculty Resources and Professional Development*

An emerging theme from the HETL community discussion board posts was 'Faculty Resources and Professional Development'. It was found that faculty members were not only using the group to discuss best practices and challenges regarding teaching students, but to help each other develop professionally and navigate working in the world of academia. For example one faculty member suggested, “Locate a trusted mentor (someone who can help you navigate
the politics, the fine print and unspoken departmental expectations). Take every day as an opportunity to reflect, and keep a teaching journal. Across time, you'll learn from your experiences, and your journal will be a great reference tool along the way. Remember that you are in a profession that encourages and allows you to always be a "student" (of teaching & learning), and as such, if you keep your curiosity about you, you'll find the experience and journey to be rewarding even during the hardest of times.”

Faculty members were found to be sharing resources with each other in the HETL online community. Resources included links to journal articles, books, presentations, online resources, blogs, videos, articles and news stories. Faculty members were found to be citing sources and using urls to help guide members to additional information. For example it was observed that faculty members were sharing resources on different educational theories such as ‘Behaviorism’, ‘Cognitivism’ and ‘Constructivism’ with citations to theorists such as Gagne, Gestalt, Minsky, Piaget, Watson and Vygotsky. It was observed that faculty members used the HETL community to share resources with their peers and to discuss a variety of topics related to professional development and teaching.

Technology

"Technology" was a main theme that emerged from the HETL discussion board posts. Faculty wrote about the problems and benefits of using technology for teaching and learning. Some faculty members discussed how technology could be a powerful tool for innovation in teaching. Whereas other faculty members believed that technology was an unneeded distraction to the learning process. There were a variety of technology tools discussed including cell-phones, tablets, laptops, mobile apps, MOOCS, online learning, e-portfolios, online surveys, visual aids
for teaching, presentation tools, videotaping, Skype, QR codes, social bookmarking, videos, video games and wiki.

One popular discussion included whether cell-phones should be allowed in the classroom. One group member wrote, “The cell phone is the most popular piece of technology right now, and so many people own one. I believe, why ban it in the classroom? It is a great tool to learn with and an opportunity to share technology. I think over time, the hurdles can be overcome and it could be a positive thing. It does have to be kept in perspective, but in the right hands, it could be a VERY effective teaching tool.” Another faculty member gave an example of using cell-phones for teaching “At our institute some of our lecturers allow smart phones in the classroom for using with QR Codes. The student can scan the QR Code, is immediately taken to a YouTube video or the internet and instantly have instructions on how to do something or an article to read. Many of these students don't have computers - however they all seem to have smart phones. What a clever way to engage youth who are technology savvy.” Participants also discussed the creation and possible uses of apps for teaching and learning.

Online learning was a common topic of interest for participants in the discussion board posts. In relation to online learning faculty members discussed attrition rate, misconceptions surrounding on-line courses, synchronous and asynchronous classes, rigor of online courses, workload, assessment, cheating, and training for online teaching. MOOCs (Massive Open Online Course) are free academic courses made available for anyone to take and were a topic of interest for faculty members in the group. The discussions revolved around if MOOCs would change education as we know it and would they work? One faculty member against the idea of MOOCs noted, “MOOCs are certainly NOT an improvement in quality of education, but a huge step back. Access to info is the basis of the Internet but does NOT equal education!! This is a
serious issue confronting educators. Transmission of videos and text, plus automated exam software are being touted as replacements for teachers at the secondary and post-secondary level.” Another faculty member believed MOOCs could be beneficial to the self-directed learner, “If I wanted to learn something new, I'd consult knowledgeable buddies or purchase a book/go to the library and start doing some personal research. One might argue that the conversation we're having thru LinkedIn is a type of self-directed learning. If I didn't need a particular credential and didn't want (for whatever reason) to take a course, wouldn't a piece of learning offered through MOOCs meet my self-directed learning needs?”

**Barriers**

A limitation of this study is that the information in the HETL online community is that topics are constantly changing and updating. In addition there is a need to continue to conduct research for data sets to see if the four major themes “Best Teaching and Learning Practices”, “Challenges in Teaching and Learning”, “Faculty Resources and Professional Development” and “Technology” continues to be key topics of interest over time. An annual study could produce ongoing analysis of the type of topics being discussed and how topics may change overtime. A barrier for this study is that the researcher is only able to observe social interactions and learning from active participants in the group. The researcher could not analysis if the lurkers or non-participants were reading or observing the online discussion. It could be that the lurkers are learning from social interactions of the group despite not being active participants which is a barrier and limitation of the study.
Summary

The research showed that the HETL participants appear to be using an online community of practice for the purpose of professional development and learning. Faculty members were found to be sharing information and ideas with colleagues from a variety of institutions and with diverse perspectives. It was observed that HETL participants appeared to be inspired and encouraged by their peers through social interactions. The findings demonstrated that questioning, feedback, cognitive structuring, contingency management, instructing and scaffolding were found in the discussion board posts; however, modeling was not found in any of the discussion board posts. The topics that faculty discussed in the HETL online community included “Best Teaching and Learning Practices”, “Challenges in Teaching and Learning”, “Faculty Resources and Professional Development” and “Technology”. This research showed that participants in an online community of practice can learn through cognitive structuring, feedback, scaffolding, questioning and contingency management. The major themes that emerged included ‘Best Teaching and Learning Practices’, ‘Challenges in Teaching and Learning’, ‘Faculty Resources and Professional Development’ and ‘Technology’. Overall that study showed how online social interactions can create an engaging virtual learning environment for faculty to develop professionally.
Chapter 6: Discussion, Implications, and Conclusion

Introduction

After analyzing 1,367 discussion board comments from 513 participants in the HETL LinkedIn community the analysis uncovered an understanding of the faculty experience and how learning through social constructivism can occur within an online community of practice. The research question examined how do higher education faculty members use an online community of practice for professional development in teaching? The three key findings from this digital ethnography included 1) Based on Tharp’s 7 Means of facilitating learning participants in the online community of practice were learning through cognitive structuring, feedback, scaffolding, questioning and contingency management 2) Participants in the online community were not observed to be using modeling in the discussion board posts 3) The major themes and topics that emerged as a result of the content analysis included ‘Best Teaching and Learning Practices’, ‘Challenges in Teaching and Learning’, ‘Faculty Resources and Professional Development’ and ‘Technology’. The research study provided a snapshot of how learning occurred through social constructivism and what were the emerging themes and key words within the HETL online community of practice.

The findings from this study were important for both the field of higher education and the overall understanding of how social constructivism can be used for learning within an online community of practice. The chapter will address the discussion of key results, challenges in findings and implications of practice for better understanding faculty online communities of practice, online communities, social constructivism and future digital ethnography research.
Faculty Online Communities

This study demonstrated how an online community can fit into the overall professional development of faculty. Guskey (2000) defined professional development as “those processes and activities designed to enhance the professional knowledge, skills, and attitudes of educators so that they might, in turn, improve the learning of students” (p. 16). The research study showed that faculty members were using the HETL online community for professional development in teaching. The discussion board posts unveiled an online culture where faculty members were sharing information and ideas with one another to better understand both the challenges and best practices in teaching and learning. Faculty members were observed sharing information, communicating with one another and answering/assembling questions in regards to teaching. HETL participants were not restricted by time or place and appeared to be driven by intrinsic motivation to participate in online discussions. Since the participation in the community was voluntary faculty members were able to determine when, if and how much they wanted to contribute to the discussion board posts.

The HETL online community with over 22,000 members was observed to be an engaging and active community that appeared to promote safety/trust, openness, respect, responsiveness, collaboration, relevance, challenge, and empowerment which were key components to a successful online community as discussed by Cox (2004). When reading the discussion board comments it was observed that faculty members discussed topics with openness, treated each other with respect, were responsive to each other’s comments, collaborated together to find solutions to problems, discussed relevant topics, challenged each other, appeared to be enjoying each other’s comments, had an overall positive morale to the online community and members
empowered each other. The top four key words used by community members included ‘students’, ‘learns’, ‘teaching’, and ‘educators’ which aligned with the mission of the HETL group in sharing information about teaching and learning.

Globalization in higher education was observed in the HETL online community with faculty members from 59 countries participating in the discussion board posts. The HETL online community allowed for the international sharing of information. The study demonstrated that despite faculty being from different countries and cultures there was a shared interest in best teaching practices, challenges in teaching, shared resources and technology. These findings have significant implications for higher education institutions in a global innovation economy. The HETL online community served as a professional learning network (PLN) where the group helped an individual reach their professional goals through guided learning, learning opportunities, answering of questions, contributing knowledge, sharing experiences and providing resources that respond to individual needs (Tobin, 1998; Warlick, 2010).

As mentioned previously, gathering faculty support for professional development and improved teaching methods has been a challenge in higher education (Association of American Colleges and Universities, 2002). Traditional professional development for faculty members has included reading publications, attending workshops, face-to-face peer learning opportunities, going to conferences and participating in on-campus discussions (Caffarella & Zinn, 1999; Cox, 2003; Hinson & LaPrairie, 2005; Lenning & Ebbers, 1999; Quinlan, 1996). Online communities of practice for faculty members proved to be another professional development resource for faculty to foster collaboration in learning and acquiring new skills. This study demonstrated that online communities of practice are used for the purpose of professional development for faculty members to explore both challenges and best practices in teaching.
The review of 1,367 comments showed how faculty members view the world of teaching through social constructivism in an online community. It demonstrated that online learning can take place through cognitive structuring, feedback, scaffolding, questioning and contingency management in online communities of practice. Online communities of practice appear to allow faculty to have the opportunity to become more accomplished educators through the sharing of ideas, information and resources. Adults are increasingly spending time on the internet engaged in activities such as finding support, building relationships, exchanging ideas and demonstrating expertise (Ziegler, Paulus & Woodside, 2014). The HETL online community offers an informal learning opportunity for faculty members to share experiences without a formal structure, set agenda and being dependent on an outside authority. Professional development in teaching is critical for educational improvements in higher education however a challenge is the lack of active participation in traditional teaching development programs (Cho & Rathbun, 2013). The HETL online community offers an opportunity for faculty members to expand their teaching skills in an informal learning environment and on their own time.

Cognitive structuring, feedback and scaffolding were an important part of faculty members’ learning through social constructivism in the online community. Cognitive structuring allowed the more knowledgeable peer to provide a structure for thinking and learning for group members. Feedback helped the group members learn from one another through providing both positive and negative feedback from one another. Participants used scaffolding to guide, assist and advise their peers in moving to a higher level of understanding. Scaffolding was observed to help the participants in the discussion board posts move through the Zone of Proximal Development (Tharp & Gallimore, 1988; Vygotsky, 1978). Both positive and negative contingency management was found in the online discussions where the more knowledgably
peer used either praise or discouraged behavior. Positive contingency management appeared to encourage members in the group to participate in the discussion board topic and to validate that the group was sharing correct or accurate information. Negative contingency management allowed for members of the group to disagree with one another and gave participations the opportunity to challenge shared information. Questioning appeared to be an important aspect in keeping the discussion going in the group and encouraging others to join in the discussion. Participants who asked questions in the group helped to facilitate learning through inquiry and social constructivism.

Instruction in the online group appeared to help participants discover additional resources for learning. Faculty members were observed instructing their peers through sharing resources such as journal articles, blog posts, websites, videos and books. These resources allowed faculty members to go beyond just the online community to further their professional development. Additionally the outside resources helped to validate that the information being discussed in the group was valid and could be supported by research. As noted before modeling was not observed in any of the discussion board comments perhaps because there was not enough time for group members to replicate suggestions and bring back feedback to the group.

The HETL online community offered an opportunity for faculty members to participate in an online community of practice where active learning, open dialogue and sharing of information was encouraged by group members. The study demonstrated that higher education administrators can use online communities of practice to help faculty learn through cognitive structuring, feedback, scaffolding, questioning and contingency management. The results of the study did not find modeling to occur within the online community of practice.
The HETL online community can be used as an example that professional development does not have to be mandatory by higher education administrators but instead it can be driven by intrinsic motivation. In addition, it was found that faculty were intent in discussing ‘Best Teaching and Learning Practices’, ‘Challenges in Teaching and Learning’, ‘Faculty Resources and Professional Development’ and ‘Technology’ which helps higher education administrators better understand what it is that faculty will take the time to discuss online related to teaching practices. Higher education administrators can use the results of this study to better understand the value in using faculty online communities for the purpose of professional development.

*Online Communities of Practice*

Though the HETL online community was specific to faculty members the results could be used to better understand other online communities of practice. The research on the HETL online community aligned with previous research (boyd, 2008 & Ellison) that described online communities of practice as vehicles for allowing individuals from around the globe to chat virtually, to find like-minded people, to debate issues, to share information and to ask/answer questions. The HETL community was observed to be a group of individuals that (1) shared interests, language, social conventions, experiences and/or needs and (2) engaged in sociable relations, where they obtain important resources, develop strong interpersonal feelings of belonging, and forge a sense of shared identity through repeated online interaction which aligned with the research on online communities (Brooks, 2010; Carter, 2005; Putnam, 2000; Preece & Maloney-Krichmar, 2003; Rheingold, 1993). The findings from the research study are important for the better understanding the general use of online communities to share best practices and to
better understand how individuals share information with one another online through social interactions.

For example, collaborative learning was observed in the HETL community where different perspectives and interpretations appeared to build upon the group and individual’s critical thinking and problem solving skills. The HETL online community could be used as a guide for using an online community for professional development and collaborative learning in different disciplines and industries outside of higher education. This study builds a foundation for better understanding how social constructivism (Ageyev, 2003; Eun, 2008; Minick, 1987; Vygotsky, 1978) could be used to help facilitate learning within an online community of practice. The study showed that questioning, feedback, cognitive structuring, contingency management, instructing and scaffolding were found in the group discussion, which may prove to be important for other online communities of practice. In addition, it is possible that best practices, challenges, shared resources and technology could be relevant to other online communities of practice outside the field of higher education. This study allows other online communities to have qualitative information to compare both challenges and best practices in online communities. In addition, these findings can help online communities find better ways to meet the needs of online participants through exploring ways to create active and engaged learners in an online community of practice.

This research supports the idea that online communities of practice can use online technologies to increase communication, collaboration, and support for the purpose learning online (Cho & Rathbun, 2013; Lai, Chen & Chang, 2014; Ziegler, Paulus & Woodside, 2014). Online communities can enable individuals to gain access to online information resources that
may not be available locally or within an organization. This online access to information could potentially help reduce feelings of disconnectedness or isolation within the workplace or an organization. These findings align with the notion that online communities could help facilitate informal knowledge sharing, the exchange of ideas and experiences in ways that contribute to continual professional learning, and the collaborative building of individual and group expertise. The research showed that online communities of practice enable members to have the opportunity to share existing knowledge in an online environment for the collaborative creation of new knowledge in a digital space through social constructivism.

Social Constructivism

It was observed that HETL participants were using online social dialogue to help individuals solve problems and to move through the ‘Zone of Proximal Development’ (Ageyev, 2003; Eun, 2008; Minick, 1987; Vygotsky, 1978). Faculty members were observed to be using social constructivism through the sharing of experiences and ideas regarding a variety of topics related to teaching and learning. The online social interactions and sharing of information appeared to help faculty members move through the ‘zone of proximal development’. The Zone of Proximal Development is defined as a space created between a more competent participant and a less competent participant for the purpose of guiding the latter to the most proximal developmental level (Ageyev, 2003). In the online community the social conversation of the group was facilitated by computer-mediated communication and appeared to provide individuals with a context and stimulus for learning (Stacey, 2011).

The research showed that the group contributed more to the learner’s understanding than he or she was capable of constructing individually. For example, one faculty member started a
discussion board thread wrote “The reason that I put up this discussion in the first place was to personally challenge us individuals in the education field to rethink why we are teaching. If the students’ body language says this is just another boring class, have we really done our job? Hiengsoon mentioned that we should put our hearts and enthusiasm into teaching. Are we?” The online community next responded with a variety of ideas and experiences about how to become a more enthusiastic teacher, which had the effect of creating scaffolding for the online group. It was observed that with scaffolding the learners in the HETL online community were assisted by both written language and social interactions from the discussion board posts. In this research study faculty used external tools (online community) and knowledgeable peers (online community members) to move from their current development (current teaching knowledge) to their potential development (improved teaching knowledge) which helped guide them through the ZPD process (Vygotsky, 1978).

Challenges and Implications for Future Research

After reviewing additional HETL discussion board comments from 2013, it is believed that the four major themes discussed in the HETL online community will likely continue to revolve around the central themes “Best Teaching and Learning Practices”, “Challenges in Teaching and Learning”, “Faculty Resources and Professional Development” and “Technology”. For example though the type of technology used will evolve and change the group will likely continue to discuss how to use technology for best teaching practices and learning well into the future. Researchers in the future could examine the HETL online community looking at time periods over several years to see if the data changed or remained the same.
Future research may want to examine if involvement in an online community of practice like the HETL community has an impact on instructors over time. In addition further research could be conducted on the role of the moderator/manager of the group in promoting member participation and ensuring quality of interaction in online communities of practice. Additionally, future studies could look at online communities in different fields or industries to see if themes would remain the same for a group. Furthermore, other faculty online communities such as Facebook and Twitter could be researched to further explore faculty learning through social constructivism and online communities. Researchers could compare different professional online communities to determine if the user experience is similar or different. Further quantitative research on teacher effectiveness could be conducted to determine the impact of online communities of practice in helping to improve teaching and learning within higher education. Furthermore, additional research is needed to understand how informal online communities can be used in conjunction with more formalized teacher learning programs both on-campus and online. In addition more research is needed to better understand how to create an active online community through moderation of a group and the development of policies and guidelines.

A limitation of this study is that there were likely lurkers, who did not express their opinions online or actively participate in the discussions (Meyer & McNeal, 2011). Thus there is no way to know from the study if the lurkers were observing or learning from the discussion board posts. A challenge to the study is that some information may have been obfuscated because only online or written discussions were analyzed. In future studies researchers may want to consider a traditional qualitative approach by interviewing members in the group or to use quantitative methodology by sending out a survey to further investigate how faculty members are
using an online community for professional development. The digital ethnography provided a starting point for better understanding of professional development and online communities of practice for faculty members. This study could be used as a foundation for future digital ethnography studies in collecting data, analyzing discussion board posts, observing digital social interactions and analyzing online communication of a group. There is more research that is needed to continue to develop best practices and to further understand how online communities can continue to be used for professional development.

Conclusion

This research study demonstrated that it is possible for faculty members to be inspired and encouraged by their colleagues and peers to learn from an online experience through social interactions. This research demonstrated that participants in an online community of practice can learn through cognitive structuring, feedback, scaffolding, questioning and contingency management. The major themes that emerged included ‘Best Teaching and Learning Practices’, ‘Challenges in Teaching and Learning’, ‘Faculty Resources and Professional Development’ and ‘Technology’.

The findings of this study help us understand how faculty members are using an online community and that learning is indeed happening in the group which contributes to the professional development of faculty members in higher education. Countries using online communities of practice may find that online support systems could provide faculty with additional support and preparation to become expert teaching professionals. Being able to share information and ideas with colleagues from a variety of institutions and with diverse perspectives appeared to be an advantage to participating in an online community of practice. The Higher
Education Teaching and Learning (HETL) online community helps us better understand how faculty members are participating in an online community to help them better understand professional development, teaching, learning, and other related problems of practice. In addition, this study, comes at a time when the focus on teaching in higher education is acute (Baldwin & Wawrzynski, 2011; Schuster & Finkelstein, 2006) and there is need for better understanding of possible methods to improve future practices in faculty professional development, learning, and teaching.

The research using this online community investigated how online social interactions can create a dynamic and engaging learning environment for faculty to develop professionally which aligns with a social constructivism theoretical framework. To meet the needs of today's learners online communities could serve as a resource for developing content knowledge and pedagogical skills through collaborative practice and social constructivism. The study demonstrated how online communities of practice can allow learners to expand on their skills and knowledge in a virtual space through online social interactions.

The clear policy and practice implication is that online communities have the potential to help improve teaching practices through encouraging an online learning culture with an institution. Through encouragement by higher education administrators more faculty members could be encouraged to use online communities of practice for the purpose of professional development. The HETL online community serves as an illustration of how an online community of practice can extend professional development to the international sharing of information without the limitations of time and space.

With ongoing rapid changes in technology it is important that educators continue to research the methods by which online communities can be used for future professional
development. Lifelong learning is the new reality in today’s society and online communities have the potential to help educators find new ways to connect, communicate, and share information with peers for improved learning and teaching purposes. Educators have the opportunity to use these powerful communities of practice to further enhance their own professional development for both themselves and their students.
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<table>
<thead>
<tr>
<th>Online</th>
<th>Purpose of Group</th>
<th>Social Media</th>
<th># Members</th>
<th>URL</th>
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</thead>
</table>

Appendices
# Appendix I

## Online Community for Faculty Professional Development in Teaching

(Academia, 2012; LinkedIn, 2012; Ning, 2012; Twitter, 2012)

<table>
<thead>
<tr>
<th>Community</th>
<th>Platform</th>
<th>Community Details</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Education Teaching and Learning (HETL)</td>
<td>LinkedIn</td>
<td>Is a global community of higher education professionals who are committed to advancing the scholarship and practice of higher education teaching and learning.</td>
<td><a href="http://www.linkedin.com/groups?home=&amp;gid=2774663&amp;trk=anet_ug_hm">Link</a></td>
</tr>
<tr>
<td>Online Faculty - Adjunct, Full-Time, University Administrators</td>
<td>LinkedIn</td>
<td>This group is for individuals who are online faculty or those who wish to become adjunct online faculty.</td>
<td><a href="http://www.linkedin.com/groups?home=&amp;gid=56349&amp;trk=anet_ug_hm">Link</a></td>
</tr>
<tr>
<td>NAFSA: Association of International Educators</td>
<td>LinkedIn</td>
<td>Promoting international education and providing professional development opportunities to the field. Hundreds of NAFSA members volunteer to serve the Association and thousands advocate for international education.</td>
<td><a href="http://www.linkedin.com/groups?home=&amp;gid=71923&amp;trk=anet_ug_hm&amp;goback=_gdr_1332353984218_1">Link</a></td>
</tr>
<tr>
<td>Instructional Design &amp; E-Learning Professionals' Group</td>
<td>LinkedIn</td>
<td>Connects professionals in the field of Instructional Design and E-Learning</td>
<td><a href="http://www.linkedin.com/groups?home=&amp;gid=110953&amp;trk=anet_ug_hm">Link</a></td>
</tr>
<tr>
<td>The Educator's PLN</td>
<td>Ning</td>
<td>Created to support of a Personal Learning Network for Educators</td>
<td><a href="http://edupln.ning.com/">Link</a></td>
</tr>
<tr>
<td>#HigherEd (Hashtag)</td>
<td>Twitter</td>
<td>Twitter community discussion focused on higher education</td>
<td><a href="http://tweetchat.com/room/highered">Link</a></td>
</tr>
<tr>
<td>#EdTech (Hashtag)</td>
<td>Twitter</td>
<td>Twitter community discussion focused on education and technology</td>
<td><a href="http://tweetchat.com/room/EdTech">Link</a></td>
</tr>
<tr>
<td>Classroom 2.0</td>
<td>Ning</td>
<td>A social network for those interested in Web 2.0, Social Media, and Participative Technologies in the classroom</td>
<td><a href="http://www.classroom20.com/">Link</a></td>
</tr>
<tr>
<td>Second Life for Educators</td>
<td>Facebook</td>
<td>For educators interested in using Second Life for educational purposes and learning about emerging 3D Internet</td>
<td><a href="http://www.facebook.com/groups/sledfire/">Link</a></td>
</tr>
<tr>
<td>Academia – Teaching and Learning</td>
<td>Academia</td>
<td>For faculty to share information, ask questions and share papers teaching and learning</td>
<td><a href="http://www.academia.edu/People/Learning_and_Teaching">Link</a></td>
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Appendix II
Certificate of Completion: Protecting Human Research Participants

Certificate of Completion
The National Institutes of Health (NIH) Office of Extramural Research certifies that Nancy Richmond successfully completed the NIH Web-based training course “Protecting Human Research Participants”.
Date of completion: 12/05/2009
Certification Number: 348278
## Appendix III
### HETL Discussion Board Comments: Top 30 Key Word Frequency

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<th>Word</th>
<th>Count</th>
<th>Weighted %</th>
<th>Similar Words</th>
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<td>2149</td>
<td>2.59</td>
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<td>Learns</td>
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<td>learn, learned, learning, learns</td>
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<td>educators</td>
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<td>0.85</td>
<td>educate, educated, educating, 'educating', education, 'education', 'education', educational, educationally, educations, educator, educators</td>
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<td>Class</td>
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<td>Thinks</td>
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<td>think, thinking, 'thinking', 'thinking', thinks</td>
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<td>Courses</td>
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<td>course, course', courses</td>
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<tr>
<td>Needs</td>
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<tr>
<td>Works</td>
<td>467</td>
<td>0.56</td>
<td>work, worked, working, works</td>
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<tr>
<td>Using</td>
<td>455</td>
<td>0.55</td>
<td>used, useful, usefulness, uses, using</td>
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<tr>
<td>Times</td>
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<td>0.52</td>
<td>time, time', timely, times, timing</td>
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<td>Research</td>
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<td>Teacher</td>
<td>386</td>
<td>0.46</td>
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<tr>
<td>university</td>
<td>379</td>
<td>0.46</td>
<td>universities, universities', university, 'university, university'</td>
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<td>discussions</td>
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<td>discuss, discussants, discussed, discusses, discussing, discussion, discussions</td>
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<td>Lectures</td>
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<td>Like</td>
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<td>0.42</td>
<td>like, liked, likely, likes</td>
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<td>0.40</td>
<td>technological, technologically, technologies, technology, 'technology'</td>
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<td>Knows</td>
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<td>know, knowing, knows</td>
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<td>experiments</td>
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<td>experiment, experimented, experimenting, experiments</td>
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<td>questions</td>
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<td>Online</td>
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<td>good, 'good, 'good', goodness, goods</td>
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<td>Helps</td>
<td>268</td>
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<td>help, 'help', helped, helpful, 'helpful', helping, helps, 'helps'</td>
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<td>differently</td>
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<td>0.31</td>
<td>differ, difference, differences, different, differently, differing</td>
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<td>knowledgeable</td>
<td>247</td>
<td>0.30</td>
<td>knowledge, 'knowledge, knowledgeable, knowledgeably</td>
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<td>interesting</td>
<td>247</td>
<td>0.30</td>
<td>interest, interested, interesting, interestingly, interests</td>
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<td>Find</td>
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<td>0.28</td>
<td>find, finding, findings, finds</td>
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<tr>
<td>information</td>
<td>231</td>
<td>0.28</td>
<td>inform, informal, informally, information, 'information, 'information', informational, informative, informed, informing</td>
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<tr>
<td>classroom</td>
<td>228</td>
<td>0.27</td>
<td>classroom, classrooms</td>
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