

**A Review of Graduate Student Research Studies
of
Communities of Practice**

Howard Dobson

June 2005

Table of Contents

Introduction.....	2
Materials and Methods.....	3
Results.....	4
Teaching and Curriculum Design.....	4
Clinical Practice.....	39
Research.....	60
Leadership and Administration.....	70
Knowledge Management Tools.....	86
General.....	102
Conclusions.....	123
References.....	126

Introduction

The aim of this project was to review the literature that is available in the area of knowledge management, specifically communities of practice (CoPs) that is relevant to my work at the University of Guelph. The primary goal was to meet the requirements of the assignment, but a very important secondary goal was also to create a document that is of immediate and practical use to myself. As such the document provides a source of information for reflection and reference. My learning style is to read a book about the subject and to write summaries as I read. In this respect the method that I choose to prepare this material was a perfect fit.

Initially I planned to focus the review more specifically on research administration, but there was insufficient data available in this specific area. A large proportion of the abstracts that were used for this project involve teaching. Although my primary career interests are in research administration I have just been given the task of coordinating the third year of the DVM curriculum. This will involve working closely with the Assistant Dean (Undergraduate Affairs) who is particularly interested in the incorporating knowledge management strategies into the curriculum in its broadest sense. Consequently, the products of this assignment will be of value in several aspects of my role at the University of Guelph.

Materials and Methods

The Proquest database was used for this study (<http://www.proquest.com/>, last accessed 28th June 2005). This database can search a variety of different sources ranging from newspapers to science and technical literature and business publications. The abstracts from doctoral and masters degree theses can also be searched. All theses titles from 1861 onwards are included in the database. Abstracts from doctoral theses are available from 1980 onwards, with masters thesis abstracts being added from 1988.

A search of theses abstracts was made using the term "communities of practice" in the Proquest database. This resulted in 198 abstracts being retrieved from the database. Initially, more refined searches using the additional terms university and research were used. These resulted in a very much smaller number of selections, sufficiently small that the number was not considered to be sufficient for this project. The list of titles was reviewed and 123 were selected for more detailed review. The criteria for selection were any titles that appeared to involve university teaching, research, professions or medical practice in its broadest sense.

The theses abstracts were downloaded from the website and assembled into a single document. Each abstract was reviewed individually. As each abstract was reviewed it was placed into one of the following categories: teaching and curriculum design, research, leadership and administration, clinical practice and clinical training and general. A total of seven abstracts were discarded after review because they had no relevance to my current work, despite the title. Each category is placed in a separate section in this document for easy reference. Following each abstract are my comments regarding its relevance to knowledge management and CoPs in general, and also to my work and to my institution. In many cases specific examples are given as to how the results of the investigation could be directly applied to my work. Summary comments relevant to each section are placed at the beginning of each section. Time and expense precluded reading in full all 112 theses, but in each section a list of those that are considered to be worth more detailed evaluation is included. Finally, some general conclusions are presented following the Results section.

Some abstracts clearly were relevant to more than one category. These abstracts were classified in the category that was considered to be the most important in the overall context of this document.

Results

Teaching and Curriculum Design

Introduction

The largest group of abstracts involved teaching or curriculum design. Many of the studies were among the very early investigations into techniques of knowledge management. These early studies were largely descriptive in nature and simply demonstrated that CoPs were an effective tool in a knowledge management strategy. Recurring themes that are the importance of a champion to facilitate the progress of the CoP. One study elaborated a number of different roles that the champion or facilitator must follow in an active manner including introducer, document maker, intentional learner, formulator, advisor, instructor, recruiter, editor, progress monitor, and process guide. This indicates the complexity of the task and indicating that a high level of commitment is required to be successful in the role.

A recurring theme throughout the abstracts was the role and the importance of legitimate peripheral learning as a means of either becoming an expert, or at least improving specific skills. This makes it clear that learning of new skills occurs by “doing”, which can involve a manual or technical skill or it may simply involve talking about an intellectual or a manual skill.

Only one study, abstract 11, describes an overtly negative experience in establishing a CoP. The implication of this implies that either implementation of a CoP is very easy, unsuccessful CoPs are not reported or in general there is a selection bias when CoPs are identified for further study. The latter is very probable as the circumstances where CoPs are available for study are likely to be those where there is a high level of commitment to the process. A different abstract, number 29, noted that some teachers were reluctant to embrace new technologies, but did not elaborate in any depth as to why this might be.

Brown and Duguid, in the text “the Social Life of Information” discuss at length the challenges that face the modern day university, and also the increase in distance education (Brown and Duguid 2000). Abstract 21 investigated the conditions required for success in distance learning by evaluation of an existing distance education magisterate. The abstract comes to the same conclusion as Brown and Duguid, placing much importance of creating an appropriate social context, specifically face to face contact at some stage in the programme. Although not clearly stated, the importance of face to face contact was evident in several of the other abstracts. Again, not always explicitly stated, this is an important part of the process of developing trust among the participants

Theses for Full Review

The following abstracts have been identified as those suitable for review of the full thesis.

- 4 Hager, Mark James (2003) Mentoring relationships in doctoral education:

- Doctoral students' socialization into communities of practice. Ph.D. dissertation, University of Michigan, United States -- Michigan.
- 5 Hanuscin, Deborah L. (2004) Learning the 'grammar of science': The influence of a physical science content course on teachers' understanding of the nature of science. Ph.D. dissertation, Indiana University, United States -- Indiana.
 - 6 Jones, Al Celester, Jr. (2003) The development of an architecture for knowledge management in special education. Ed.D. dissertation, The George Washington University, United States -- District of Columbia.
 - 9 Knighton, Charles Jeffery (2004) The development of expertise in teaching: A situated learning perspective. Ph.D. dissertation, Auburn University, United States -- Alabama.
 - 26 Jonick, Christine Ann (1998) A situated business simulation for postsecondary accounting students based on the cognitive apprenticeship model of teaching and learning. Ed.D. dissertation, University of Georgia, United States -- Georgia.

Abstracts Reviewed

- 1 Avery, Leanne Marie (2003) Knowledge, identity, and teachers' multiple communities of practice. Ph.D. dissertation, Cornell University, United States -- New York.**

This study explores the effects on classroom practice of science teachers' experiences in a curriculum development program. It investigates how teachers' involvement in a curricular community of practice (COP) affects their ability to foster learner communities within their own classrooms. Specifically, it looks at how their identities as curriculum makers influence the ways in which they implement and reconfigure curricula, and the ways in which they present science in their classrooms. Whereas previous work in science education has incorporated understandings of the nature of science into science curricula, my study offers a new outlook by focusing on the role curriculum development plays in science teacher practice. This research investigates the "value-added" of being a curriculum maker in regards to social networking in COP and in teaching science. Drawing from the fields of sociology, of science, ethnomethodology, and social learning theory, this study employs a unique methodology that illuminates the intricacies of teacher practice. Borrowing from studies in the Social Construction of Technologies (SCOT), I present a model for examining teacher practice which views curricula as technologies and teachers as users of these technologies. My study is a multi-method case study of six teachers. Three out of the

six teachers are curriculum "makers" while the other three teachers are curriculum "users". Maker teachers were involved in the entire curriculum design process: development, design, implementation, and reconfiguration. User teachers were only involved in the implementation and reconfiguration phases. I collected seven main sources of data: written instruments, interviews, classroom observations, ongoing conversations, curricular artifacts, teacher self-reports, and project updates. The data were analyzed using the constant comparative analysis method and a sequence of other thematic qualitative methodologies.

Three overarching findings emerged from the analysis: (1) All six teachers drew upon the EI COP in ways that changed their classroom practice. Because the EI COP model centered on creating and sustaining a community of practice and inquiry-based science, teachers engaged in team- and project-based approaches to learning and in an inquiry-based approach to classroom science; (2) The makers in this study exhibited a more expansive approach to their practice than did the users; and (3) The practices of the maker-as-maker teacher group differed from those of both the maker-as-user teacher group and the user-as-user teacher group. From a science education perspective, the "ultimate" question this study sought to answer was, "Was there value in teachers having a curricular making experience?" The answer is, yes. However, tied to this question was the issue of determining whether or not the practices implemented by the teachers in this study were a result of their attributes or of their roles in the EI program. In other words, were the makers' practices a consequence of the role they had in the EI program or not? Finally, this study discusses the implications of these findings as they pertain to science teacher education. This study is the beginning of a larger exploration into using the lens of S&TS to investigate teacher practice. It demonstrates how teacher education programs can use social engagement via Communities of Practice (COP) to cultivate classroom COPS that portray science as it is practiced in the real world.

This thesis explores the role of teachers in curriculum design compared to teachers who are not involved in curriculum design. It is not clear from the abstract how the CoPs were structured, nor what the role was that CoP played in curriculum design. The implication of the abstract is that a CoP is of benefit in both curriculum design and is of value to the teachers presenting the curriculum. An additional implication is that CoPs are of benefit to teachers in general in helping them to become better teachers.

An obvious conclusion to be drawn from this is that there is a role for teaching CoPs in both curriculum design and for teachers involved in presenting a course. This is particularly relevant in the DVM programme where most courses are taught by a large number of faculty. Each faculty member may have as few as one lecture or as many as 20 lectures in each 90-100 lecture course. As a result, there are frequent differences in opinion as to what should be taught, how it should be taught, and how it should be integrated with other material within the same course and within other courses. These

differences in opinion are frequently unresolved. A CoP may provide a tool to reach consensus, but I foresee difficulties with some individuals who are introspected and other who are protective of their own “turf”.

2 Brown, Nancy Melamed (2003) Tangled paths: Three experienced teachers' growth in understanding during an extended science community of practice professional development effort. Ph.D. dissertation, University of Michigan, United States -- Michigan.

This qualitative investigation extends the study of teacher learning within a reform-based community of practice model of professional development. This long-term, multiple case study examined three experienced teachers' transformations in thinking about science instruction.

Data were collected during the three years of the Guided Inquiry supporting Multiple Literacies research project, designed to develop instructional practices informed by a socio-cultural, inquiry-based orientation. Data sources included: transcripts of semi-structured interviews collected at strategic points, the teacher's journals, initial application information, and teachers' written case studies. Using an interpretive case study approach, tenets of the teachers' orientations were identified through a recursive process.

Results are organized to reflect two principles that were integral to the design of the professional development community. The first principle describes changes in teachers' orientations about the goals and characteristics of science instruction in the elementary grades. The second describes changes about teachers' knowledge about themselves as learners and the influence of this knowledge on their thinking about science instruction and student learning.

Illustrative findings indicate that: (a) it is possible for teachers' language regarding conceptions of their practice to change with only superficial change in their orientations, (b) teachers can hold dualistic ways of thinking about their practice, (c) in some cases, teachers use a significant amount of autobiography about their own learning to explain their practice; over time, this was replaced with warrants using the language that developed within the professional development community, and (d) long-term case studies revealed differences in orientations that emerged and were refined over time. These findings provide strong support for communities of practice as a model of professional development and hold implications for advancing teacher learning.

This study appears to use a quantitative measure of the value of CoPs in the development of overall professional competence of teachers. That quantitative data are used in the study makes it attractive. One interpretation of the results of this study is that a CoP is likely to benefit teachers at any stage of their career. There is a tendency for some, but by no means all, teachers to become complacent in their teaching abilities as their career

progresses. This particularly applies in the university setting where teaching is not the only role of a faculty member, unlike the primary and secondary education systems where teaching is the primary function of most teachers. As a result their teaching becomes stale and they would probably benefit from involvement in a CoP with both younger and dedicated, be they young or old, teachers.

3 Foulger, Teresa S. (2004) Facilitating a community of practice to encourage organizational leadership: The journey of a professional developer. Ed.D. dissertation, Pepperdine University, United States -- California.

This study explored the process of professional development involving five teacher participants working as a community of practice (CoP) in collaboration with a professional developer (the researcher). Of specific focus were factors related to the professional developer, the CoP, and the infrastructure that encouraged the teachers involved in the CoP to express leadership directed towards schoolwide change. The findings of this study were compared to the recommendations proposed by the National Staff Development Council's (NSDC) Standards for Staff Development . Using action research methodology, the researcher was an active participant in the process as a consultant to a K-8 school seeking to increase technology integration.

The qualitative analysis of surveys, participant reflections, interviews, and artifacts indicated that skills and behaviors of the professional developer, the sociocultural environment, and the various elements of the infrastructure did increase the interest and commitment for members of the CoP to share knowledge with those outside their group. Although there was evidence that CoP teachers did participate in sharing knowledge beyond their CoP, any long-term effects were not investigated.

Because the findings generated by this research were based on a particular school setting and involved unique individuals, other professional developers in the field might not be able to generalize the findings to their own situations.

The NSDC standards related to context, process, and content of professional development models depict a standardized approach that might not include many of the nuances that appeared to be related to the success of this particular professional development effort utilizing CoPs. Further research related to these nuances might benefit those interested in organizational change.

This study investigated the influence of the researcher, who also functioned as the CoP champion on the willingness of the members of the CoP to share their knowledge with the broader community. The conclusion was that the CoP champion can strongly influence the functioning of a CoP. In some ways this is less than ideal as, in the extreme, the group can take on a messiah and disciple format, rather than a group of equals who work together. In this case, however, the outcome appears to have been positive.

4 Hager, Mark James (2003) Mentoring relationships in doctoral education: Doctoral students' socialization into communities of practice. Ph.D. dissertation, University of Michigan, United States -- Michigan.

This dissertation investigated mentoring relationships between doctoral students and their faculty mentors in a school of education. The goal was to understand the experiences and expectations that guide mentors' and students' practices to learn what roles mentoring plays in doctoral students' socialization as educational researchers. Most theories of mentoring are based on career success models, yet they do not capture the unique developmental character of doctoral education. A second goal was to test the utility of Lave and Wenger's (1991) theory of situated learning, legitimate peripheral participation (LPP), as a model for mentoring relationships in doctoral education.

In-depth interviews with ten exemplary mentors and 24 of their students from one school of education were conducted to learn the "in-vivo" workings of these relationships. Constant comparative methodology guided the inquiry. A multi-step content analytic procedure was used to analyze the data and generate descriptive themes.

Four themes grounded in LPP emerged to describe the role faculty-student mentoring plays in doctoral students' socialization into communities of practice: how to be an academic; collaborative participation in the practices of the educational research community; communicating with professional communities; becoming successful members of the educational research community.

LPP accurately described the students training as educational researchers, yet it was not adequate to describe the affective side of the relationships. Kram's (1985) theory of psychosocial mentoring was used to understand the contribution psychological and social support made to these students' socialization. Participants' comments supported Kram's (1985) theory. Four psychosocial functions were crucial to students' overall experience of their mentoring relationships: role modeling; acceptance and confirmation; counseling; and friendship.

There were also obstacles to the relationships which the theory of LPP did not anticipate. Partially skilled mentors, mismatched research interests, and heavy demands on faculty mentors' time impeded students' participation and learning. To ameliorate these challenges, students crafted multiple mentoring relationships with other faculty and researchers.

Conceptualizing mentoring relationships in a community of practice offers students multiple role models, potential theory communities, and people to fill mentoring roles.

This abstract reviews the relationship between the graduate student and the research advisor. It finds that legitimate peripheral participation can be used to describe much of the relationship. However it does not explain the psychosocial mentoring component

consisting of role modeling, acceptance and confirmation, counselling and friendship. Importantly the abstract alludes to the difficulties that arise with poor mentors, mismatched research interests and heavy time demands that are significant problems in the real world of graduate student mentoring. That students find solutions in creating multiple relationships is helpful, but is clearly not the sole solution. Simply recognizing on a formal basis that these problems exist is a step in the direction of resolving the problems.

5 Hanuscin, Deborah L. (2004) Learning the 'grammar of science': The influence of a physical science content course on teachers' understanding of the nature of science. Ph.D. dissertation, Indiana University, United States -- Indiana.

This research examined the development of practicing K-8 teachers' views of the nature of science (NOS) within a physical science content course. Reforms in science education have called for the teaching of science as inquiry. In order to achieve the vision of the reforms, teachers must understand science, both a body of knowledge and as a process, but also the very nature of science itself-or the values and assumptions inherent in the construction of scientific knowledge. NOS has been deemed a critical component of scientific literacy, with implications for making informed decisions about scientific claims.

Research has indicated that despite the emphasis of reforms, teachers generally do not possess accurate views of NOS. Recent work in science education has led to the recommendation that efforts undertaken within teacher education programs to improve teachers' understanding of NOS can be enhanced through relevant coursework in other academic areas, including the sciences. The purpose of this dissertation was to provide an empirical basis for this recommendation, by examining the development of teachers' views of NOS within a physical science content course.

To this end, the researcher employed qualitative methodology including participant observation, interview, document analysis, and questionnaire to assess teacher participants' views of the nature of science and the impact of their experience in the content course on these views. As a result of this research, implications for both the course design and science teacher education have been described. In addition, various aspects of the community of practice that characterizes the classroom that inhibit the development of understandings about the nature of science are identified. It is argued that instruction in NOS should be approached from the perspective that builds bridges between the communities of practice of learners and of scientists.

This abstract appears to address the issue of science teaching at the secondary and possibly the primary level, rather than at the post secondary level. However elements of the subject also apply at the post secondary level. Its premise appears to be based in the concept of questioning why a phenomenon occurs and instilling the concept of lifetime

and self learning in the pupils. An important comment is made towards the end of the abstract that the characteristics of the CoP that inhibit development of the basic concepts are discussed in the thesis, but unfortunately, are not elaborated in the abstract. This is worthy of further review.

6 Jones, Al Celester, Jr. (2003) The development of an architecture for knowledge management in special education. Ed.D. dissertation, The George Washington University, United States -- District of Columbia.

This study was designed to provide a framework that supports the development and implementation of a knowledge management system in special education by analyzing the perception of leaders within the field of special education regarding knowledge management. This study also examined the correlation between areas in special education, and areas in business that were identified as highly beneficial for a knowledge management system and identified practices related to knowledge management in the field of business that may benefit the development of a knowledge management system in special education.

This study was a modification and extension of a dissertation study conducted by Charles Bixler at The George Washington University (2000) designed to provide a framework for knowledge management in a technical enterprise. The 128 participants in the study completed an author-developed questionnaire, The Knowledge Management Questionnaire, which was based on the Bixler (2000) study. This questionnaire that examined the value of knowledge management in special education and its relationship to organizational communication, systemic organizational change and technology, collectively termed the "concept of care" in this study. The term concept of care has been studied in the literature in relationship to business knowledge management systems and its examination within this study helps to establish a bridge between business systems that focus on products and services as opposed to systems with special education that focus on outcomes for individuals with disabilities. The analysis of variance, Pearsons correlation, one sample t-test and the general linear model univariate procedure were used in testing the hypotheses of the study at $p < .05$.

The analysis of the data indicates that leaders within the field of special education perceive knowledge management to be valuable to the field of special education and the data identifies specific areas, necessary practices and expected benefits related to that perception. In addition, the data found there was some correlation between areas perceived to be a high potential area in business for knowledge management and areas perceived to be a high potential area for knowledge management in special education. This indicates possible areas of future research and suggestions, and best practices that may be beneficial in special education. The data also indicates that the concept of care does affect the perception of perceived benefit of knowledge management for

educational leaders.

Very few studies address knowledge management and special education and further research is needed to examine the emergence of practices that support knowledge management at the federal, state, local and across education and other agencies that provide benefits to children with disabilities.

This abstract considers analogies between the application of knowledge management between business and special education. It found that the needs of the two areas are similar. The training of veterinary medical residents is one where there are many specific individual needs, and therefore comparison can be made with special education. The specific individual needs are clearly very different. The abstract does not specifically identify the common ground that was identified, but the entire thesis is probably worth reading to uncover the specifics.

7 Kiel, Nancy K. (2004) An analytical case study of curriculum development learning. Ed.D. dissertation, Peabody College for Teachers of Vanderbilt University, United States -- Tennessee.

This naturalistic case study built on prior research in the areas of teacher and principal learning. Although there has been much recent research examining the situative perspective of teacher learning, there has been limited research about principal and teacher interactions as teachers learn. This study explored the phenomena of developing a new character education curriculum in an elementary school, specifically focusing upon the learning of the teachers and the principal during the experience. Very little empirical research exists that describes the particular characteristics and qualities of interactions between teachers and principals that encourage teacher learning (Spillane & Seashore Louis, 2002). Specifically, the study examined the teachers' and the principal's beliefs and values about teacher learning. It focused upon how the principal and the teachers perceive the role of the principal in facilitating teacher learning.

Data were collected for 10 months in an elementary school in which the teachers and principal were engaging in the development of a new character education curriculum. A purposive sample of the school principal and two teacher participants, an apprentice and a veteran, was employed. Using the constant-comparative method of the principal/teacher interactions, several themes emerged. Salient themes included the value of determining the purpose of professional learning opportunities before implementation, the integral role communities of practice play in the creation of meaning and knowledge for teachers and principals, and the situative perspective of educational leadership.

This study leads to new theoretical insights regarding how both the individual and social perspectives of cognition are mutually influential and significant when facilitating professional development in a school.

The professional development facilitated during the study was the development of a new character education curriculum. The study has value due to the images of the principal's and the teachers' learning about curriculum development it provides. Also, current understanding of a situative perspective of educational leadership is further developed.

This study clearly has significant implications in any educational setting where a curriculum change is being contemplated or even being implemented. In my experience in a university, curriculum change is usually taken on with the participants having little, or in most cases no, knowledge or understanding of the social consequences of the changes that are being contemplated. Since curriculum review is a very disruptive and contentious process anything that can facilitate the process is worthwhile. As with so many abstracts, this one does not summarize the specifics of the conclusions.

8 Klecka, Cari Lynn (2004) Distributed mentoring: Developing electronic conferencing to support new teachers. Ph.D. dissertation, University of Illinois at Urbana-Champaign, United States -- Illinois.

This study examined the nature of participation in a distributed community of practice developed for the purpose of supporting new teachers in the context of the Novice Teacher Support Project (NTSP). Through the development of electronic conferencing, the NTSP provided the support for conversations about teaching and learning among new and experienced teachers in different teaching contexts across the state of Illinois. The primary research questions probed the nature of participation defined as the content, form, and conditions for participation in the distributed community of practice, in addition to what knowledge resources were made available within the community. Data sources included open-ended surveys, focus group interviews, and discussion and content analysis of the online discussions. Over a two-year period, 389 discussions were analyzed using the state standards and a framework devised to code the purpose for initiating conversations. Twenty-one discussions identified as sustained were analyzed using the Henri's (1992) analytic framework for electronic conferencing conversations. The researcher concluded that a problem-solving community of practice evolved because participants initiated online conversations to primarily pose inquiries and raise practice-based concerns from their classrooms. The goals of the NTSP helped define the interaction within the community, which evolved as commentary about the teachers' own experiences and practices emphasizing diverse perspectives across teaching contexts. Through their conversations, teachers evaluated, assessed and articulated approaches and employed planning skills in working toward solutions for one another's concerns. These interactions provided more visible thinking about one another's practices rather than reflections on teachers' own practices. The conditions for participation included responsibility, safety, and trust, all of which were bolstered through face-to-face meetings and also

interacted with the degree of anonymity participants had within the electronic conferences. Finally, this dissertation raised issues in continuing research on and development of distributed communities of practice and their potential role in teacher education, specifically citing the ability for the distributed mentoring model to afford the transcendence of district and school cultural boundaries in fostering change in different teaching contexts.

This study investigated the role of electronic conferencing in the development of skills in a group of new teachers. Although this study does not have immediate relevance to my profession as the community within my department is sufficiently small enough that face to face CoPs develop informally among new and old faculty and in my professional world an existing CoP is available to address these questions. Of note is that the study emphasizes the importance of face to face meetings in the establishment of an electronic CoP.

9 Knighton, Charles Jeffery (2004) The development of expertise in teaching: A situated learning perspective. Ph.D. dissertation, Auburn University, United States -- Alabama.

Expert teachers possess a number of traits that allow them to stand apart from other teachers. They have affective traits such as a strong sense of mission, a performance mindset, and a desire to push the edge of their competence. They have behavioral traits such as the use of a wide variety of teaching techniques, the use of routines, eye contact, and a high energy level. They also have cognitive traits, such as a large, well-organized knowledge base and the ability to process information more efficiently. While we can identify a number of traits of expert teachers, little is known about their development.

Researchers have identified stages of development of expertise in teaching. These stages, while informative, do not provide information regarding how teachers progress from one stage to another. In addition, the concept of situated learning has broadened our understanding of how people learn. However, little or no research has been conducted to determine how communities of practice assist teachers in the development of expertise.

In order to document the developmental path of expertise in teaching, the researcher spent 12 years teaching a standardized alcohol and drug curriculum, 10 of which were spent within a community of practice of expert trainers of the curriculum. The researcher progressed from novice teacher to expert teacher. Using qualitative research methods, particularly case study and grounded theory, experiences were documented. In addition to using the constant comparative method, the researcher also conducted semi-structured interviews with each of the other trainers within the community.

It was determined that the path toward expertise in teaching is not a direct, upward path. Rather, instructors experienced a decline in ability once they reached the competency stage and entered into the community of practice of expert teachers. The mentors in this community assisted the new trainers in reversing the decline in ability and progressing toward expertise by providing the new trainers with safe opportunities to practice and take risks, feedback on their performance, and familial caring. In order to reverse the decline in ability, the new trainers had to surrender to the fact that they were not perfect and could learn from their mentors, and they had to accept that they did not have to be perfect. Once the expert level had been reached, flow and a solidified trainer identity motivated the expert teachers to continue developing their skills.

This is an exciting abstract, in large part because the process of become an expert that is described largely parallels my own experience in developing skills as a teacher and as both a general veterinary practitioner and as a specialist veterinary radiologist. The single striking fact is the period of decline once one joins an expert group. This occurred with me in all three circumstances mentioned above. Conscious effort is required to halt this decline. This is very definitely a text that requires further review.

10 Larson, Linda Lea (2003) A descriptive study of technology integration and faculty professional development in one higher education institution. Ed.D. dissertation, Pepperdine University, United States -- California.

The study examined the usefulness of a technology mentoring program, at a large California State University, designed to help faculty integrate technology into teacher education courses. Effective strategies for implementing a technology integration program were considered from the perceptions of faculty mentors and their mentees who were teacher education faculty receiving technology integration support. More specifically, the focus was on the mentee's perceptions of (a) the most helpful aspects of mentoring, (b) the ways they changes their courses and pedagogy to integrate technology, and (c) the ways technology can enhance learning. Participants included 4 mentors and 6 mentees out of a sample of 68 faculty, the 6 mentees were randomly selected based on whether their LoTi Questionnaire scores were above or below the median: 3 were randomly selected from scores above the median and, 3 from below the median. Using descriptive research with a qualitative case study approach and with data sources that included scores on the LoTi Questionnaire (for the total LoTi scale scores, Cronbach's Alpha = .85), open-ended interviews and surveys, the study obtained faculty perceptions of their mentoring experiences, and their course syllabi to determine the extent to which faculty met technology standards. The qualitative data from the interviews and open-ended surveys were analyzed using the constant comparative method. Themes that emerged from the analysis included: (a) In learning technology

integration, faculty preferred individualized coaching and a personal relationship with a mentor who had both content and teaching expertise; (b) project-based mentoring should include the mentee setting realistic goals for the project, outside practice, and mentor follow up; (c) mentors should integrate, as part of their teaching strategies, ways to make the mentees move to independence; (d) mentees faced three major challenges when integrating technology: time, fear, and technology problems; (e) all the mentors and mentees emphasized that the most helpful aspect of mentoring was individualized learning and understanding of the individual's needs; (f) the number one integration strategy mentioned by both the mentors and mentees was working on an interest-based project; and, (g) both mentors and mentees indicated mentoring helped to foster a community of practice.

This abstract presents a study that has used at least a semi quantitative approach to confirm some conclusions, that when reviewed, are very intuitive. What is particularly striking is the widespread challenges of time, fear and technology difficulties that were identified as obstacles to incorporation of technology in teaching. The study is an example of legitimate peripheral participation as a means of becoming expert in a given technique.

11 Moore, Julie Ann (2003) The desire for and design of teacher professional development: A community of practice in the making? Ph.D. dissertation, Indiana University, United States -- Indiana.

In various forms of educational literature, the word "community" is used to designate one of the primary goals of professional development. Phrases like "learning communities," "professional communities," and "communities of practice" are becoming commonplace. Curiously, while "community" has been put forth as an effective strategy and a worthwhile goal for professional development, little work has been done to understand whether that is what teachers want. The purpose of this study is to understand five teachers' professional development goals and values, their participation in and value of two community-focused professional development projects, and the extent to which the discourse of "community of practice" can be used to characterize and understand these teachers' professional development goals and values.

This study focuses on five secondary math teachers at the end of their first year of participating in a lesson study group (LSG) coordinated by a major Midwestern university. Their work in the project was supported by an online professional development environment, the Inquiry Learning Forum (ILF), which was designed upon the precepts of communities of practice. Utilizing a grounded theory approach to build individual cases, the teachers' professional development goals, values, and work in and reflections on their first year in the LSG and ILF projects were analyzed and categorized. Cross case analysis revealed the teachers had a strong

desire for professional connection and placed a high value on the lesson study process as a form for professional development and growth. The teachers reported seeing little value in the online environment supporting their work either in or out of the lesson study group, despite their recognition of the environment's potential. In addition, some evidence was found for using the attributes of a community of practice as a way of characterizing both stated teacher professional development goals and their professional development activities.

This abstract is particularly interesting in that it found a negative experience in an online CoP in a group of teachers. The purpose of the CoP was development of a professional connection with the group. The abstract does not indicate if the author either explored or at least speculated as to why the experience was not helpful. Potential reasons would include that the participants were not able to develop sufficient trust to disclose their thoughts, the members were not computer savvy, or perhaps the group, being only five members, was too small to be a critical mass. Clearly, exploration of the reasons for the group's failure are important. Understanding why is helpful when dealing with cynics when trying to establish a CoP.

12 Sheppard, Jennifer (2003) Composing in multiple dimensions: Understanding research and production practices in Web-based multimedia development. Ph.D. dissertation, Michigan Technological University, United States -- Michigan

Until recently, most theorists writing about digital multimedia have focused on how such texts differ from print and how these new media can be utilized by readers for innovative ways of understanding. Little attention, however, has been given to the composition and production of multimedia texts, particularly those which aim to communicate about complex technical or scientific subject matter.

To address this gap, my dissertation examines the iterative development process of a science-based educational web site aimed at fifth to eighth grade students. My research reveals that the ultimate success of the web project was dependent not strictly on my knowledge of technological practices, but upon my ability as the designer/composer to first get to know the subject matter and then to determine modes of communication that made it accessible and appealing to the target audience.

In Chapter One, I outline my research project in relation to scholarly discussions about the communicative and educational potentials of web-based multimedia. In Chapter Two, I discuss my qualitative methodology as well as the U.S. Forest Service Research Station setting in which this project was situated. In Chapter Three, I review literature related to multimodal literacy practices, particularly as they connect to the underlying importance of situated learning in the process of understanding and communicating about technical subjects regardless of mode or medium. I also address the academic and professional shift from an information

transfer model of communication toward one that emphasizes the active construction of knowledge and understanding. In Chapter Four, I examine tactics used to collaborate with subject matter experts and strategies for gaining access to, understanding, and communicating specialized subject matter knowledge. This work illustrates the value of using a repertoire of research strategies for tapping into the tacit and explicit knowledge of specialists within a community of practice. In Chapter Five, I investigate the multimedia production practices I used as a way of arguing for their intellectual, rhetorically and technologically complex, context-bound, nature. Finally, in Chapter Six, I conclude by offering a series of recommended practices, grounded in theory, which are intended as guidance for teachers who are integrating multimedia composition into their pedagogy.

This study is very relevant in that it explores how to communicate material for teaching purposes on a web site. This is a welcome addition to the literature as it addresses a question that has been largely ignored. As teachers we have all been swept along by the wave of multimedia teaching, but few have stopped to consider both how effective this method is and more importantly, what the components of a successful approach consist of.

13 Thompson, Terrie Lynn (2003) Even a virtual synchronous classroom has walls: There's more to collective meaning making than the technology. M.A. dissertation, University of Ottawa (Canada), Canada.

The parade of new technologies is relentless. Are newer learning paradigms, such as sociocultural perspectives, reflected in the design and delivery of e-learning experiences? Studying the triad of stakeholders involved in a workplace e-learning experience--learners, adult educators, and software developers--I explored how technology, workplace context, and assumptions about learning influence collective meaning making. The setting for this qualitative case study was a multi-national organization using a sophisticated web-based technology.

Multiple data collection methods helped construct a multifaceted understanding of teaching and learning in the virtual synchronous classroom (VSC). The findings point to the gap between contemporary learning research and the use of e-learning technologies, highlighting that the human and contextual dimensions ultimately define the nature of the learning. Through communities of practice, sociocultural perspectives allow us to envision how the VSC could shape more dynamic learning that extends beyond the walls of a classroom--physical or virtual.

Although this study does not elaborate on its results, and perhaps they are simply recommendations for further study, this thesis is an important contribution to the literature. It seeks to identify gaps between what learners need and what current

technologies are able to provide, with emphasis on the shortcomings of technology. This provides a basis for the improvement of e-learning techniques.

14 Walker, Lisa Jean (2003) From science fair to project-based science: A study of the implementation of an innovation through an existing activity system. Ph.D. dissertation, Northwestern University, United States -- Illinois.

The implementation process is critical to the success of educational innovations. Project-based science is an innovation designed to support students' science learning. Science fair is a pervasive school practice in which students exhibit science projects. Little is known about how science fair may affect the implementation of reform efforts in science education. This study explores the relationship of science fair and project-based science in the classrooms of three science teachers.

Two theories are used to understand science fair as an instructional practice. Cultural historical activity theory supports an analysis of the origins and development of science fair. The idea of communities of practice supports a focus on why and how educational practitioners participate in science fair and what meanings the activity holds for them. The study identifies five historically-based design themes that have shaped science fair: general science, project method, scientific method, extra-curricular activity, and laboratory science. The themes provide a new framework for describing teachers' classroom practices for science fair activities and support analysis of the ways their practices incorporate aspects of project-based science.

Three case studies in Chicago present ethnographic descriptions of science fair practices within the context of school communities. One focuses on the scientific method as a linear process for doing science, another on knowledge generation through laboratory experiments, and the third on student ability to engage in open-ended inquiry. One teacher reinvents a project-based science curriculum to strengthen students' laboratory-based science fair projects, while another reinvents science fair to teach science as inquiry. In each case, science fair is part of the school's efforts to improve science instruction. The cases suggest that reform efforts help to perpetuate science fair practice.

To support systemic improvements in science education, this study recommends that science fair be recognized as a classroom instructional activity--rather than an extra-curricular event--and part of the system of science education in this country. If science fair is to reflect new ideas in science education, direct intervention in the practice is necessary. This study--including both the history and examples of current practice--provides valuable insights for reconsidering science fair's design.

This study evaluated the application of the science fair, typically an extracurricular activity to classroom teaching of science. The study appears to conclude that more “open ended” approaches to classroom teaching are of merit.

15 Austin, Kimberlee Paulynn (2000) Coaching as a metaphor for teaching in a community of practice. Ph.D. dissertation, Stanford University, United States -- California.

Efforts over the past century to create student-centered learning environments have faced only minimal success (Cuban, 1984). An assumption underlying this study is that this trend can be attributed, in part, to the lack of clarity around the role of the teacher in such communities of learners. This study examines the role of the teacher in a particular community of practice, a high school journalism program. Three questions guide this analytical case study of a journalism teacher: What are the central contextual features of this teaching/learning environment? How do the various components of the teaching and learning interaction change over time, as students develop expertise? What is the role of the teacher in fostering her students' learning and how does it change over time? Interviews, observations, surveys, and classroom artifacts served as the primary sources of data to answer these questions.

Through a consideration of the journalism teacher's vision for her practice, her decisions shaping program design, the range and types of interaction with her students, and her analysis of her own practice, features and functions of the coaching role are identified and illustrated (Shulman, 1998). A number of the findings contrast with prevailing views about teaching and learning: first, this study posits that didactic forms of teaching do not necessarily threaten student-centered learning, but rather can prepare students for more independent and collaborative work; second, findings suggest that coaching is more possible in the context of externalized, repeatable, structured routines, rather than continuously novel units of instruction; and third, coaching does not mean fading completely, but taking on a new role and a gradual transfer of responsibility over time. In an attempt to define coaching, a previously vague notion, this study links a conception of learning with a conception of teaching and proposes implications for those involved in the fields of teacher education, curriculum development, educational reform and learning theory.

This is an interesting study that explores, and to a degree, attempts to define, the difference between teaching and coaching. Essentially it describes a legitimate peripheral participation scenario where the students gradually develop a degree of independence. The abstract appear to imply that a teacher presents material to the students in a group, often in a formal classroom setting, whereas a coach engages in informal discussion either on an individual or smaller group basis. I question whether this distinction is

necessary, I consider the terms to be somewhat synonymous in the educational setting. The term coach is classically based in sports, but in reality, the coach is a teacher.

16 Bergstrom, Kirk Eric (2000) Rediscovering the meaning of school: Culture, community, and learning. Ed.D. dissertation, University of San Francisco, United States -- California.

Research domain . This study explores the role of language and culture in the process of whole-school change. The investigation focuses on questions of meaning through an analysis of narrative and metaphor. Field-based conversations were conducted with administrators, teachers, and students from three school communities spanning grades K-12. As part of the research, attention was given to best practices of teaching and learning.

Research process . The researcher utilized a participatory critical hermeneutic research process. To conduct research in the hermeneutic tradition is to explore a world that is opened up by the shared conversation of the researcher and the participants. The conversations enabled the researcher to understand the fundamental way in which narrative and metaphor construct culture. As a result, new insights emerged about how people in schools can reconsider time, space, and relationships to revitalize the act of teaching and learning.

Findings . Among the finding revealed by the study: One, teachers are not adequately prepared to teach for understanding. This begins with many teachers limited practical knowledge of inquiry-based modes of teaching and learning. Even when teacher practitioners learn how to design and choreograph inquiry-based projects, they often lack rigor in assessing for understanding.

Two, when school communities boldly reconfigure time, space, and relationships, they invigorate the process of teaching and learning. As new patterns of social interaction emerge, people report profound transformations in the life of their school.

Three, when members of a school community commit themselves to a process of practice-based research, they generate immediate and tangible benefits. As data, knowledge, and insights emerge from communities of practice, people in schools begin to see how they can grow their competencies and accelerate professional development.

Implications . Among the implications for teacher practitioners and administrators: First, that more attention be given in schools of education and other forms of teacher preparation to the role of language and metaphor. Second, that leaders in schools purposefully enlarge opportunities for peer conversation and communities of practice. Third, that people in schools consciously identify and build a network of partnerships to support ships to support their whole-school change initiatives.

This study presents data indicating that teachers are not well prepared to teach for understanding and that CoPs are an important component of the development of both teaching skills and the development of the school community as a whole. Although this study was based in the primary and public school stem it clear has implications for the post secondary system, adding further evidence of the importance of CoPs in the development of teaching.

17 Biagetti, Stephanie Laura (1999) Developing algebra teachers' understanding of their students' thinking. Ph.D. dissertation, University of California, Los Angeles, United States -- California.

Although the education community has general notions about the process of teacher learning, continued research is necessary to understand further the how teacher learning occurs, how it impacts changes in classroom practices, and how it can lead to generative change. In this study I investigated teacher learning when student work was utilized to focus on student thinking in a professional development setting. Eight Pre-algebra and Algebra teachers participated in the study. The motivation for my work with algebra teachers stemmed from the bleak facts about first-year algebra failure rates and the role that algebra plays in filtering out students from future mathematics courses and often from school itself. My goal was to enable algebra teachers to create classroom environments in which students learn in ways that enhance their understanding and their success in algebra.

The teachers and I met in monthly workgroups for which they brought samples of their student work from a common, pre-selected problem. During the workgroups, the teachers shared their students' problem-solving strategies found in the work. At times, the teachers and I analyzed and ranked the strategies according to their mathematical sophistication to form frameworks for interpreting the strategies. Otherwise, we examined the teachers' instructional practices using a student thinking perspective. I characterized the teachers' participation in both the workgroup and classroom settings. At the group level, I noticed shifts in the teachers' participation as we engaged in workgroup activities and shaped the community's practices and goals associated with understanding, eliciting, and building on student thinking. At the individual teacher level, I tracked the teachers' participation shifts in both the workgroup and classroom communities of practice. Generally, the teachers began reporting details of their students' thinking, elaborating the workgroup frameworks with their students' thinking, examining instructional practices from a student thinking perspective, and eliciting student thinking in class. As a result, I characterized teacher learning through their participation shifts and illustrated the process through which teachers moved toward generativity.

This study investigated how CoPs could improve teaching, and therefore student performance in algebra. It concluded that a CoP changed, presumably for the better, but this is not explicitly stated, the way in which teachers interacted both with their peers and with their students. The study adds further weight to the concept that CoPs are an important component of any teaching institution.

18 Bruce, Catherine Diane (2001) Collaborative action research on enhancing student communication in mathematics: Building a teacher-researcher community. M.A. dissertation, University of Toronto (Canada), Canada.

The purpose of this study was to explore the relationships of three teacher-researchers as they developed a small community of practice while conducting action research on student communication in mathematics. The teachers set specific goals for instructional improvement. Their reform-based interventions were monitored, as were student mathematics learning logs. Simultaneously, activity and reflections of the teacher-researchers were documented over eight months. A grounded theory approach was used to analyse data through the processes of open, axial, and selective coding. An overarching model for collaborative action research was generated from the data. Sources of data included interviews, observations, group meetings, learning logs, and teacher-researcher journal entries. The main finding of this study was that successful instructional change required: (1) an active reflective stance by the participants; (2) a small supportive community of practice; and (3) the obviation of sources of tension.

This study provides additional support for the effectiveness of Cop in the development of teaching skills. It further emphasizes the need for reflection on what has been achieved and the need to resolve causes of tension within the group. Conflict resolution is a component of the function of CoPs that is not widely discussed and inability to adequately deal with this issue could mean the difference between success of failure of the group. This is particularly important if specific members of the group are not being open about their concerns and perhaps discussing their concerns outside of the group to a small subset of the population.

19 Herzig, Abbe Hana (2002) Sowing seeds or pulling weeds? Doctoral students entering and leaving mathematics. Ph.D. dissertation, The University of Wisconsin - Madison, United States -- Wisconsin.

The mathematics community has become concerned about the state of doctoral education in the U.S., including high attrition rates and the under-representation of women and students of diverse racial and ethnic groups. Previous research on the doctoral student experience (over all disciplines) has identified the role of three factors influencing the persistence and attrition of doctoral students: features of the individuals who leave, features of the institutions of study, and features

of the academic disciplines. However, there is little discussion of the process by which these factors affect students, nor of mechanisms to remedy the issues of concern. This dissertation presents an integrated summary of research on doctoral student persistence and attrition, and proposes a model of doctoral student persistence and attrition based on Tinto's model of academic integration and Lave and Wenger's concept of legitimate peripheral participation in a community of practice. In this model, student interactions with faculty are crucial for students' persistence toward the Ph.D. If this model holds up to research scrutiny, then it also directs attention to ways universities and departments could work to improve the persistence rates of their doctoral students. Following that, a case study of one mathematics department is presented. Ten faculty members and eighteen graduate students were interviewed about their experiences within mathematics. In this department, students had either limited or predominantly negative interactions with faculty. The results are interpreted in the context of attribution theory. While faculty believe that student success depends on the student's ability and willingness to work hard, the students attributed their success to external causes, such as luck and the nature of the program. Implications for doctoral programs in mathematics are discussed.

This is potentially a high impact thesis in that it investigates factors involved in the retention of doctoral candidates. In doing so it emphasizes the importance of CoPs in providing an environment for legitimate peripheral participation, which is a key component of graduate education. Unfortunately, the abstract does not divulge the study's conclusions.

20 Loughner, Pamela Ann Downs (2002) Horizontal expertise in instructional design. Ph.D. dissertation, The Pennsylvania State University, United States -- Pennsylvania.

This study explored horizontal expertise in instructional design, or an instructional designer's ability to work with individuals from other communities of practice. The horizontal view of expertise is especially salient to the field of instructional design. In the design of an instructional program, designers routinely work with teams of individuals who know little about instructional design, and in domains in which the instructional designer knows little.

The study was framed by sociocultural theory. Sociocultural theory evolved from the work of Vygotsky and includes such concepts as zone of proximal development, intersubjectivity, appropriation, and scaffolding.

The study asked four broad questions relative to the roles assumed and the strategies used by an instructional designer as she facilitated the development of a shared understanding of the instructional design project with individuals from other communities of practice.

The qualitative methodologies that guided this research were

ethnomethodology and discourse analysis. The author used observation, videotapes, documents, and interviews to explore how shared meaning was created among members of an instructional design team as they designed a course in manufacturing systems engineering.

During the design of the program the instructional designer assumed a variety of different roles. Roles that she assumed included (1) introducer, (2) document maker, (3) intentional learner, (4) formulator, (5) advisor, (6) instructor, (7) recruiter, (8) editor, (9) progress monitor, and (10) process guide.

Several strategies used to assist performance previously identified in the research literature were also observable, as were several components of scaffolding. Attributes of horizontal expertise that were observed in this study included (1) the ability of the designer to assume different roles, (2) the ability of the designer to use various strategies, (3) demonstrated flexibility on the part of the designer, (4) adaptation of the design approach to meet the contexts' needs, (5) the creation of common forms of communication, (6) scaffolded the performance of other, (7) became an intentional learner, (8) developed credibility through her actions, and (9) understood the context.

This study explored the various roles of an instructional design expert in assisting groups prepare new material. The abstract lists the numerous roles that the facilitator of a CoP must play at various times during the activity of a CoP. The relevance of the study is the emphasis on how important the role of the facilitator of a Cop is, and how this is a very active, rather than a passive role.

21 Menchaca, Michael Paul (2002) An evaluation of a distributed, distance learning Master's program in educational technology. Ed.D. dissertation, Pepperdine University, United States – California

The purpose of this research was to evaluate an existing Master's in Educational Technology delivered through distributed, distance learning. Through this evaluation, the significance of technology tools, pedagogic strategies, and how they interact in distributed environments was addressed.

Data were collected from student surveys, faculty surveys, student interviews, student portfolios, and programmatic documentation. The Empowerment Evaluation methodology was used to triangulate data collected from multiple stakeholders to lend credence to the conclusions made, which included (1) Few comprehensive evaluations of online programs existed in the literature. Studies that did exist did not make recommendations regarding: appropriate technologic tools, pedagogic strategies, and how these interacted. (2) Technology tools in distributed environments should appeal to multiple learning styles of students. Critical tools included: synchronous environments, asynchronous environments, and web-based content. Technology tools enhanced learning, creating an environment often

superior to traditional formats. (3) Appropriate strategies in distributed environments included: processing content, discussing content, problem-solving through collaboration, reflecting, and building a community of learning. Learning in a social context was critical to the success of online learning. (4) Face-to-face interaction was crucial for establishing a community of learning. (5) Tools and strategies complement each other, including using web-based media for processing content, using synchronous tools for discussing content, using synchronous tools for problem-solving through collaboration, using asynchronous tools for reflection, and using synchronous tools and face-to-face interaction for building community. The utilization of specific tools with appropriate strategies deepened student understanding and strengthened their ability to solve complex problems. (6) The evaluation revealed the program met goals and objectives. The evaluation determined more than just students were satisfied; it determined why students were satisfied. Students operated in a powerful, flexible environment where they could engage in complex problem-solving within a community of practice using sophisticated tools and sound strategies. The program ultimately produced graduates with sound research skills, strong leadership and staff development capabilities, and solid understanding of how technology can best be integrated into teaching and learning.

This important study evaluated the components of a distance masters degree that made it successful. Important elements for success included face to face meeting and the use of a variety of tools for synchronous discussion. Equally important was developing an appropriate strategy to ensure that the learning occurred in a social context and included processing and discussing material, problem solving and reflecting.

22 Olsen, Timothy Paul (2000) Situated student learning and spatial informational analysis for environmental problems. Ph.D. dissertation, The University of Wisconsin - Madison, United States -- Wisconsin.

Ninth and tenth grade high school Biology student research teams used spatial information analysis tools to site a prairie restoration plot on a 55 acre campus during a four-week environment unit. Students made use of innovative technological practices by applying geographic information systems (GIS) approaches to solving environmental and land use problems. Student learning was facilitated by starting with the students' initial conceptions of computing, local landscape and biological environment, and then by guiding them through a problem-based science project process. The project curriculum was framed by the perspective of legitimate peripheral participation (Lave & Wenger, 1991) where students were provided with learning opportunities designed to allow them to act like GIS practitioners. Sociocultural lenses for learning were employed to create accounts of human mental processes that recognize the essential relationship between these processes and their cultural, historical, and

institutional settings (Jacob, 1997; Wertsch, 1991). This research investigated how student groups' meaning-making actions were mediated by GIS tools on the periphery of a scientific community of practice. Research observations focused on supporting interpretations of learners' socially constructed actions and the iterative building of assertions from multiple sources. These included the artifacts students produced, the tools they used, the cultural contexts that constrained their activity, and how people begin to adopt ways of speaking (speech genres) of the referent community to negotiate meanings and roles. Students gathered field observations and interpreted attributes of landscape entities from the GIS data to advocate for an environmental decision. However, even while gaining proficiencies with GIS tools, most students did not begin to appropriate roles from the GIS community of practice. Students continued to negotiate their project actions simply as school exercises motivated by the exchange value of points for grades; and not as legitimate actions of scientifically literate community members motivated by the environmental benefits of a solution. Formative research findings illuminated obstacles for students applying spatial information approaches to solve environmental and land use problems; and identified means to better situate and facilitate students' application of scientific proficiencies in the roles of citizens or practitioners.

This descriptive study explores the development of a CoP in the context of an educational experience of high school pupils. The study describes how the students engaged in the CoP and clearly learned in an apprentice-master context. However the study also comments that the major motive for involvement in the CoP was to gain marks, and not to fully engage in the communities practice of maximizing environmental benefits. This is an important point to recognize for educators, particularly those in a specialized discipline that is being taught in a more general context. It is very easy for the teacher to be disappointed when the pupils do not display the same degree of passion for the discipline.

This is an excellent abstract that truly gives an indication of what the full thesis contains, although the synopsis of the results could be expanded.

23 Zarrow, Joel Adam (2001) Inquiry and the development of a community of practice. Ph.D. dissertation, Stanford University, United States -- California.

This research focuses on how schools become better learning organizations in order to become more effective teaching organizations. While organizational learning theory suggests a distinction between first-order and second-order learning, little existing scholarship helps to explain the interconnection between the two. Further, while school reform is clearly linked to ideas about organizational learning, there is a paucity of research that uses an organizational learning frame to

understand either strand of organizational learning in the context of a school engaged in reform. This study addresses these gaps.

The research question guiding the study is, "How is a cycle of inquiry used as a process for school change?" The cycle of inquiry is the central reform strategy espoused by the Bay Area School Reform Collaborative (BASRC), a \$112 million education initiative in Northern California involving approximately 115 public K-12 schools from 1996-2001. Central to the research are two case study teacher groups engaged in inquiry embedded in the same school context. Data collection spanned the academic year fall 1998 to spring 1999 and included both qualitative and quantitative methods.

From the empirical examination, I develop descriptive theory extending Etienne Wenger's work on community of practice into a developmental and dynamic model. I move from Wenger's conception of a community of practice to an understanding of a community of practice that accounts for emergence, growth and decline. For each of Wenger's three dimensions of a community of practice--joint enterprise, mutual engagement and shared repertoire--I use the case study analysis to identify the attributes of a community of practice relevant to a school engaged in reform. I then extrapolate to suggest the nascent and mature forms of each attribute. What emerges is a new framework specifying the developmental pathways for school communities as they work to become professional learning communities. The work concludes with implications for practitioners, policy-makers and research.

This abstract expands on the development of learning in CoPs in the context of curriculum reform. Unfortunately, the results are not described in the abstract. The information provided raises a learning issue for me of understanding first and second order learning.

24 Hall, Leslie Dawn (1996) Experienced teachers and computers: Creating a community of practice. Ph.D. dissertation, The Ohio State University, United States – Ohio

This research investigates how women who are experienced elementary teachers learn to integrate computers into their curriculum. The five participants are teachers at Briar Elementary School, a language arts/computer magnet school. I recount their tellings of the ways in which they learned to operate computers, to integrate computers into their first through fifth grade curriculum, and the hindrances they encountered. Qualitative research methods guide this research. Data include a group discussion, interviews, a grounded survey, participant observations, and documents. Lave and Wenger's (1991) theory of legitimate peripheral participation in tool environments aids my understanding of the data during the later stages of the study. I extend this theory to include new communities of practice as the members learn to use a new tool. I also

highlight the importance of expertise with common tools of everyday practice as the teachers in this community learn to use and integrate the new tool.

This research finds that middle-aged women who are experienced elementary teachers make-up an untapped resource in the movement to integrate computers into the elementary curriculum. This group of women models teaching as practiced by thoughtful and knowledgeable practitioners. They also prompt us to change our collective perceptions of what a teachers is and does is to include the use of computers as a tool for teaching and learning.

Lave and Wenger's (1991) constructs of community of practice, learning curriculum, continuity, displacement, technologies of practice, identity, visibility, invisibility, and transparency provide multiple lenses for examining the complex process of integrating computers into an elementary curriculum. In the final chapter, Wenger's (1990) distinction between procedural transparency and cultural transparency serves as a means for bringing the cultural significance of artifacts into the conversation.

Computers are tools developed by the military and business. These tools are now finding their way into elementary classrooms, the provinces of women and children. I suggest that women elementary teachers need to become aware of the ways in which computers embody the environments in which they developed. This awareness will help teachers understand the impact of military and business cultures on classroom practice.

This case study explores the introduction of computer based teaching in a cohort of primary school children. It explores how the children function both in a CoP and as an example of legitimate peripheral participation. As such it adds further evidence to the usefulness of CoPs. Interestingly, although not explicitly stated in the abstract, children perhaps provide a good model for the introduction of new social technologies because they lack some of the social inhibitions of adults and may provide a quicker way to the truth.

25 Hundhausen, Christopher David (1999) Toward effective algorithm visualization artifacts: Designing for participation and communication in an undergraduate algorithms course. Ph.D. dissertation, University of Oregon, United States – Oregon

Algorithm visualization (AV) software graphically illustrates how computer algorithms work. While the software initially had much promise as a pedagogical aid, research studies designed to substantiate its pedagogical benefits have yielded markedly mixed results. I argue that to harness the pedagogical promise of AV software, we need to rethink the theory of effectiveness that has guided its design and pedagogical use. My starting point is an alternative theoretical foundation that views learning not at the level of the individual, but rather at the level of the community of practice. On this alternative view, learning is seen in

terms of participating more centrally in the practices of the community. To tailor this theoretical perspective to the particulars of the community of practice in which algorithms learning takes place, I conducted an ethnographic study of an undergraduate algorithms course in which AV software was used to facilitate students' more central participation in the community. Specifically, students were asked to use AV software to construct and present their own visualizations--two activities commonly performed only by community experts (algorithms instructors). The key finding of the study is that requiring students to use conventional AV software in this way actually impedes learning within the community, because it requires students to put inordinate amounts of time into community-irrelevant activities, and because it discourages students and instructors from engaging in meaningful conversations about algorithms. On the other hand, asking students to construct and present homemade visualizations made out of simple art supplies appears to avoid these problems. To explore this finding further, this dissertation pursues two parallel research directions: (1) a controlled experiment that tests the hypothesis that, on a test of procedural understanding and recall, students who construct their own, homemade visualizations will outperform students who interact with a visualization constructed by an expert; and (2) a prototype AV system that supports the construction and presentation of unpolished, pen-and-paper visualizations. This research provides the beginnings of an alternative theory of effectiveness, which emphasizes the importance of students' constructing and discussing unpolished, pen-and-paper visualizations as a means of participating in a community of practice.

This is an exciting study that challenges the common notion that computer based learning is more effective than conventional techniques. My own experience, both as a teacher and a learner supports this challenge. The study evaluates the effectiveness of two different non computer models of a computer technique and finds that both are more effective than using the computer based technique itself. It must be recognized that the technique of developing computer algorithms is not replaced, it is learning the concepts of the process that is improved. There may be other areas where a different innovative approach to teaching using models can be more effective than the conventional approach. Similarly, it should not be concluded that all computer based teaching and learning is not of value, quite the contrary. For me, the value of this study, in addition to supporting one of my own conclusions concerning the non universal effectiveness of computer based learning, is that it encourages challenging the norm and thinking creatively.

26 Jonick, Christine Ann (1998) A situated business simulation for postsecondary accounting students based on the cognitive apprenticeship model of teaching and learning. Ed.D. dissertation, University of Georgia, United States -- Georgia.

Over the last decade, the accounting profession and business

community have expressed concern over the outcomes of postsecondary accounting education in terms of preparation of students for the workplace. This study attempted to design a strategy to improve the level of learning in the college classroom and to better develop in students those skills and qualities desired by business. The study was grounded in the tenets of situated cognition which posits that learning occurs most effectively through authentic activity and in communities of practice. Four research objectives guided this study. (1) To develop a simulation for introductory accounting that was a practical application of situated learning theory and whose design was based on the cognitive apprenticeship model. (2) To test the application for validity and consistency in interpretability. (3) To field test the application to observe implementation and consider implications for change which would enhance the product for future participants. (4) To assess the impact of an application grounded in situated learning theory on student achievement test scores.

The cognitive apprenticeship model provided a framework for the development of a computer-driven simulation in which students engaged in operating small businesses. The simulation was reviewed by accounting educators for its quality and anticipated effectiveness. Two field tests were conducted in college accounting principles courses and both quantitative and qualitative means of data collection were employed in gathering information about the product, process, and participants. Students were administered an assessment exam to gauge their level of learning as a result of the simulation process. They also were given a feedback instrument which provided insight into the experience from their perspective.

The results of this study indicate that the business simulation for teaching and learning the introductory accounting principles topic of special journals was effective and was well received by students. The implications from this study may provide justification for future research in this area and for the development of simulations for other accounting topics.

This study, which has both quantitative and qualitative components address the issue of graduates from an accounting programme not being ready for the challenges of the real world. This is a common concern in many, if not all disciplines, including veterinary medicine. The study is based on the development of a computer based situated learning challenge. While the study is based in accounting, it is quite possible that some of its principles can be applied to other disciplines as an example of innovation occurring as a result of cross discipline interaction. It is for this reason that I will be reviewing the entire thesis looking for components that can be either applied or adapted to veterinary medicine.

27 Kazemi, Elham (1999) Teacher learning within communities of practice: Using students' mathematical thinking to guide teacher inquiry. Ph.D.

dissertation, University of California, Los Angeles, United States -- California.

Teacher learning in mathematics is more than a matter of expanding knowledge and developing new pedagogical practices. It is also an enterprise that consists of crafting and re-crafting an identity of what it means to teach and to learn mathematics. This dissertation advances our understanding of teacher learning as participation in communities of practice (Lave & Wenger, 1991). The study reports the results of a professional development project whose goal was to help teachers develop their understandings of students' mathematical thinking through their professional inquiry inside and outside of the classroom. Teachers at one school met in monthly workgroups throughout the year. Prior to each workgroup, they posed a similar problem to their students. The workgroup discussions centered on the student work those problems generated. Teachers' workgroups and classrooms served as local and interacting communities of practice. The study coordinates qualitative analyses of communal and individual trajectories of learning.

The analyses first document interrelated shifts in workgroup participation. The initial activity of the workgroups involved conversations that detailed students' mathematical strategies. The focus on student thinking allowed teachers to develop a framework for interpreting student thinking, which included principled ideas about place value understanding and mathematical sophistication. The workgroups also served as communities where teachers shared and examined their classroom practices. As the year progressed, they began to puzzle over their roles in the classrooms, not only in eliciting student thinking, but in extending and building students' mathematical understandings. Second, the analyses unveil the diversity in individual participation across the workgroup and classroom communities. Three forms of participation were identified: disassociated, peripheral, and generative. Shifts in participation are documented and explained. Moving towards generative participation involved shaping an identity of teaching as an intellectual activity centered around eliciting, interpreting, and making use of student thinking. Implications for the study of teacher learning, professional development, and school change are discussed.

This study adds more evidence of the effectiveness of CoPs in broadening the knowledge of teachers, in this case in mathematics. This study however, appears to have an additional twist. It will be necessary to read the full thesis to full understand what was done. It appears that the teachers posed a question to their pupils prior to attending meetings of the CoP. They used the responses of the class to discuss the different learning techniques used by the students. The study also raised an additional learning issue for myself. The terms disassociated, peripheral, and generative participation are used in the abstract. I am familiar with peripheral participation, but not familiar with disassociated and generative participation and, as such, these represent learning issues..

28 Lagache, Edouard Albert (1995) Diving into communities of learning: Existential perspectives on communities of practice and zones of proximal development. Ph.D. dissertation, University of California, Berkeley, United States – California

There is newfound appreciation for social and communal aspects of learning (Brown, Collins, & Duguid, 1989). Communities of practice (Lave & Wenger, 1991) represent a keystone in socio-cultural accounts of learning. This work examines short term communities of practice within school-like settings by developing an existential account of how communities of practices are formed, persist in time, and dissolve into the social milieu. Drawing on the existential/ontological philosophy of Heidegger (1927/1962) and Vygotsky's (1978) notion of a zone of proximal development, an account is given of communities of practice as being-in-the-world.

Empirical data is drawn from recreational scuba diving. Scuba diving is taught in classes founded on the same traditions as classroom schooling but which extend into the real world practices of recreational diving. These certification classes form brief but intense communities of practice.

These communities of practice are formed within a zone of proximal development produced by the instructional staff and diving culture. This zone serves both to 'support' (scaffold) and 'portray' (model) the tasks of scuba diving. Students then can use these resources to learn diving. Unlike Vygotsky's original zone of proximal development, this zone exists only for the whole class and not for isolated individuals.

A community of practice exists as a set of relations between participants and diving resources. Heidegger's (1927/1962) account of being-in-the-world has precisely this character. Vygotsky's zone can be understood in terms of Heidegger's ontological account. In turn, Lave & Wenger's account of legitimate peripheral participation can be understood in terms of Heidegger's account of the transformation of being. Just as Heidegger describes the existence of an individual, this work provides an existential description of how a community of practice is formed out of social practice, persists in time, and eventually dissolves as required by that practice.

There is interest in both engineering communities of learners (Brown, 1994) and analyzing existing communities of learning (Rogoff, 1994). The existential perspective taken here provides a conceptual framework from which to interpret and critique efforts to sustain learning communities by focusing on how such communities persist in time.

This study examines the application of CoPs in a situated learning context, specifically diving instruction. The key element of the study's conclusions appears to be related to the factors that influence sustainability of a CoP, although this seems somewhat surprising,

given that the author states that each individual CoP is rather ephemeral. Unfortunately, the abstract does not give details, so it would be necessary to read the full thesis to understand its conclusions.

29 McGee, Steven Michael (1996) Designing curricula based on science communities of practice. Ph.D. dissertation, Northwestern University, United States -- Illinois.

Throughout the history of science education in the United States, reformers have attempted to engage students in scientific inquiry. During each era of science education reform, reformers have achieved success with a limited number of teachers, but the majority of science teachers continue to use instructional practices that do not promote scientific inquiry. The reformers' inability to create lasting transformations in science teaching has been attributed to an overemphasis on the official and the assessed curricula and a relative neglect of the relationship between teachers and students in actual classrooms.

The CoVis Project is exploring the use of advanced networking technology for supporting scientific inquiry. Through the CoVis Project, students are provided with learning tools which give them access to scientists and scientific data. By allowing the teachers to design project-oriented instructional practices which incorporate these learning tools, the CoVis Project has shifted the emphasis of reform from the official and the assessed curricula to the taught and the learned curricula. This dissertation provides a quantitative and qualitative description of the taught and learned curricula from four CoVis earth science teachers who attempted to engage students in scientific inquiry. The combination of the CoVis learning tools and the CoVis teachers' instructional practices comprise the CoVis taught curricula. The resulting student-generated artifacts represent the CoVis learned curricula.

Since there has been relatively little attention given to the taught and the learned curricula, it became necessary to develop several instruments for characterizing the CoVis taught and learned curricula. The CoVis taught curricula were characterized by a detailed description of the relative emphasis that each CoVis teacher placed on engaging students in scientific inquiry and the manner in which the students' inquiry was supported by each CoVis teacher. The CoVis learned curricula were characterized by the students' success at engaging in scientific inquiry. Through an analysis of the relationship between the CoVis taught curricula and the CoVis learned curricula, it was found that students were more successful if they were given concrete feedback about how to engage in scientific inquiry. The dissertation concludes with a general framework for characterizing taught and learned curricula.

This study compares the taught curriculum with the curriculum learned by students in an attempt to elaborate why some teachers continue to teach the “old” way when a new

curriculum has been introduced. The abstract does not elaborate on conclusions with respect to the latter question. It does comment that a framework has been created for comparing taught and learned curricula. There are a number of reasons why teachers may be resistant to introducing a new curriculum. These include a sense that the new method is, in fact, not an improvement on the old. Alternatively, the teachers may simply be resistant to change. A CoP may provide a vehicle to initially explore the reasons why this situation exists.

30 O'Donnell-Allen, Cindy Leah (1999) Teaching with a questioning mind: An analysis of the development of a teacher research group into a discourse community. Ph.D. dissertation, The University of Oklahoma, United States Oklahoma

Although much research has examined classroom discourse and the functions of talk within small groups of students, little has been conducted on the discourse practices of teacher research groups. This study was an ethnographic analysis of the collaborative discourse practices influencing the establishment and maintenance of the Red River Writing Project Teacher Research Group (RRWPTRG) as well as the processes by which this diverse group of classroom teachers, most with only limited experience in conducting research, developed into a discourse community of teacher researchers. All data were initially categorized by date, genre, purpose, and outcome, and were keyed to relevant research questions which suggested emergent themes in RRWPTRG's cultural development. Meeting transcripts were then analyzed using an analytic grid representing multiple components of the speech event.

Data analysis suggested that RRWPTRG's collective identity as a teacher research group was rooted in prior overlapping settings that constrained the group's development of an overriding motive and the purposeful activities, problem-solving methods, and discourse practices it established as appropriate. Members' degrees of congruence with this overriding motive largely predicted their success within RRWPTRG, and those whose personal goals conflicted with the motive eventually left the group. The linguistic choices favored by RRWPTRG reflected the relational framework of core group members, their attitudes toward group identity, and their cultural norms, values, and priorities. Central to the development of communicative competence in RRWPTRG was a value for equity in communication. Because RRWPTRG activities were carried out largely through the medium of language, the members who succeeded within the group were those who learned to speak, write, and behave like teacher researchers by developing fluency in the research dialect, regularly participating in exploratory talk and writing, and sharing findings in and beyond the group's immediate setting. RRWPTRG's discourse practices were tools for: (1) establishing and maintaining membership, roles, and relationships as teacher researchers in the RRWPTRG culture; (2) providing intellectual, procedural, and emotional support for individual members;

(3) posing and solving problems through exploratory talk; (4) sharing knowledge in larger settings; and (5) establishing membership within more global communities of practice.

This is an abstract from the early days of Knowledge Management research and provides data that CoPs are an effective method for a group of teachers to engage in improving their teaching methodology.

31 Rodriguez, Alberto J. (1994) Managing the dilemmas of learning to teach: An exploration of the strategies used by preservice science teachers. Ph.D. dissertation, The University of British Columbia (Canada), Canada.

The purpose of this study was to investigate the dilemmas pre-service science teachers encounter in relation to their participation in a project which sought to establish a constructivist and collaborative model of teaching and learning. I also explored the strategies the pre-service teachers implemented to manage the dilemmas they encountered, as well as how they perceived those dilemmas to have influenced their teaching practice and their personal philosophies of teaching and learning (PPoTaL).

Since the construct of voice was an important factor in this study, I used a research method that I refer to as intercontext. This method has three major components: stimulated linkage, reflexivity and the dialectical conversation. To enact this research method, I conducted five interviews with each of the six pre-service teachers over the 12-month period of their professional preparation. In addition, I had many informal conversations with them and observed them several times during their university and school practicum experiences.

I argued that social constructivism provides a fruitful theoretical framework to interpret the results of this study, because this orientation to teaching and learning is based on the notion that knowledge is socially constructed and mediated by cultural, historical and institutional codes. In this light, three broad dilemmas were identified in relation to the students' experiences with the teacher education program's course content and design and six dilemmas were identified in relation to the roles the participants felt they needed to perform during their school practicum. The variety of dilemmas the pre-service teachers encountered and the direct and indirect strategies they implemented to manage those dilemmas could be explained in terms of two overarching issues. The first had to do with the difficulties associated with bridging the theory and practice of learning to teach in two distinct communities of practice (i.e., in the university and the school communities). The second general factor had to do with the type of relationship the pre-service teachers established with their school advisor(s) or/and faculty advisor; that is, from the students' point of view they wondered to what extent they could trust their advisors to allow them to take the risks associated with asking

questions, trying innovative approaches in the classroom, and exploring their own teaching identity without any of these reflecting negatively in their final evaluation reports. Finally, a number of suggestions for practice and further research are provided.

This is also a study from the early days of Knowledge Management research. It is largely a description of the difficulties experienced by trainee teachers in the latter part of their programme where they engage in class teaching for the first time. The study is descriptive and several subsequent studies have further elaborated on the issues raised and presented solutions.

32 Wenger, Etienne Charles (1990) Toward a theory of cultural transparency: Elements of a social discourse of the visible and the invisible. Ph.D. dissertation, University of California, Irvine, United States -- California.

This dissertation develops a number of analytical categories for investigating what people know about the world in which they live. It is an attempt to open up a universe of discourse that does justice to the social character of human life. The argument of the dissertation is developed in the context of an ethnographic study of a claim processing center in a large insurance company.

The basic argument is that knowledge does not exist by itself in the form of information, but that it is part of the practice of specific sociocultural communities, called here "communities of practice." Learning then is a matter of gaining a form of membership in these communities: this is achieved by a process of increasing participation toward full participation. This process is called here "legitimate peripheral participation."

Visible objects such as artifacts or symbols also belong to the practice of these communities. Therefore, seeing the cultural significance of these objects, something I call "cultural transparency," requires access to the practices to which they belong. This in turn requires membership in the relevant communities. The relation between artifacts and persons, which one may describe as understanding or not understanding, is therefore never a direct relation between them, but one that is mediated by a person's membership in specific communities and by an object's being part of the social practices of some communities, which may or may not be the same. To the extent that these communities are different, such an object can be called a "boundary object" that mediates the articulation of these communities. This dissertation investigates the nature of one such object and analyzes both the relations that it can mediate and the forms of knowledge and senses of self that can result.

The availability of such an analytical discourse is important because technological advances and the division of labor imply that we deal more and more with objects that do not primarily belong to our communities of

practice. This is especially relevant to the design of computer systems.

This abstract describes many of the components of an effective CoP. It provides definitions of many of the terms that are now in common usage in Knowledge Managements circles. Being some 15 years old this thesis is one of the foundations on which the discipline has been built.

Clinical Practice and Clinical Training

Introduction

This section provided an interesting range of topics that had been the subject of research, with clinical training being the most common. It also produced the second highest proportion of thesis that were sufficiently relevant and interesting to warrant reading the entire thesis. The common theme through the abstracts was that legitimate peripheral learning is important in clinical training. That this is the case is not particularly surprising. However, the abstracts described a number of interesting and different perspectives on this, at times very challenging, issue. An important part of clinical training, which can be extremely stressful, is maintaining the emotional wellbeing of the trainees. This was directly or indirectly addressed in a number of the studies that involved social skill development and the development of professional identity.

An interesting theme that appeared was the use of narrative in clinical teaching. The term narrative, or any of its synonyms, is simply never used in clinical training. The majority of clinicians would see the term in a very negative sense. In contrast, what are known as case studies are commonly used in clinical teaching. These are case scenarios where the teacher presents the relevant information from a real or fictitious clinical case for discussion by the class. The presentation of the case itself easily falls into the description of narrative which results in social interaction among the group as to possible courses of action. Language can have a profound influence on a person's response to an initiative, and therefore the success or failure of any venture can depend on the language used to describe it. Abstract 9 also establishes that narrative was a significant factor in "establishing relationships, empowering learners, enhancing communications, building communities of practice, transferring tacit knowledge, promoting critical thinking, and facilitating transformational learning", further reinforcing the importance of narrative in clinical training.

Descriptions of legitimate peripheral learning are common many abstracts. The master-apprentice relationship is very common in all branches of medicine and the studies confirmed its value.

It was very encouraging that several of the abstracts in this section used quantitative techniques in addition to descriptive studies for all or part of the research. Overall, it was very encouraging to find that science was being used to unravel what is often described as the art of medical and veterinary medical practice.

Theses for Full Review

- 1 Cabot, Lyndon B. (2004) The dental vocational training experience: A transition from novice dentist to competent practitioner. Ed.D. dissertation, Open University (United Kingdom), England

- 3 Dauberman, Judy L. (2004) At the intersection of self, community, and culture: Emerging academic and professional identities. Ph.D. dissertation, Stanford University, United States -- California.
- 4 Hudzicki, Janet (2004) The transition from novice to expert within the medical technology community of practice: A phenomenological inquiry. Ph.D. dissertation, Kansas State University, United States -- Kansas.
- 7 Nardone, Marie Koval (2003) The development of competence by physical therapy students during clinical education. Ed.D. dissertation, University of Delaware, United States – Delaware
- 8 Plack, Margaret M. (2003) Learning communication and interpersonal skills essential for physical therapy practice: A study of emergent clinicians. Ed.D. dissertation, Columbia University Teachers College, United States -- New York
- 10 Bridgeford, Tracy Beth (2002) Narrative ways of knowing: Re-imagining technical communication instruction. Ph.D. dissertation, Michigan Technological University, United States – Michigan.
- 12 Carroll, David Mausfield (2001) Collaborative professional learning: Creating a community of practice among school and university partners in teacher education. Ph.D. dissertation, Michigan State University, United States -- Michigan.
- 19 Redmond, Pamela Anne (2002) Building a community of practice: A case study of technology-augmented mentoring for new teachers. Ed.D. dissertation, University of San Francisco, United States -- California.

Abstracts Reviewed

- 1 Cabot, Lyndon B. (2004) The dental vocational training experience: A transition from novice dentist to competent practitioner. Ed.D. dissertation, Open University (United Kingdom), England**

Immediate postgraduate dental training is compulsory. To practise within the General Dental Services (GDS) the newly qualified must undertake a twelve-month period of vocational training (VT) as a Vocational Dental Practitioner (VDP) in an appropriate training practice under the immediate supervision of a vocational trainer. VT advisors manage schemes of 12 practices and arrange 30 VDP Study Days. This is a crucial period of transition for the new graduate. There is little evidence to support Seward's claim (2000) that VT has been the profession's success story, particularly in terms of patient care or

educational worth.

Taking an interpretive approach the aim of this study was to provide an insight into the educational value of VT and provide answers to the following: (1) How is a typical trainer/VDP partnership manifest? (2) What if the partnership is not successful? Are there unforeseen consequences of VT? (3) Is the selection process successful? (4) What is the influence of trainer expertise?

The participants were two successive cohorts of 13 and 22 GKT Dental Institute graduates and their trainers. I established success criteria for defined aspects of VT; evidence was then sought to determine if the criteria had been met. I interviewed the VDPs and trainers at six months and again at year-end.

An account of the most likely or typical experience and an example of failure to successfully implement VT form the core of this thesis.

Asian women appeared to have difficulty securing a VT place, but they wanted to remain in the South East where competition for VT places is fierce.

VT is a success story. Stated aims were achieved; with very few exceptions VT produced practitioners capable of independent practice. Novice dentists became competent practitioners.

Progression in VT is a complex issue. As an expansion of the models of Eraut (1994) and Dreyfus and Dreyfus (1986), VT advances a relational model of progression. Trainers have developed a well-grounded notion of VDP progression, but they are themselves, in parallel, undergoing their own skills progression. One cannot be considered without the other.

This study suggests VT could be better. The Professional Development Portfolio was not valued despite its potential. Training expertise seeped away from VT and was lost forever. Rested expert trainers could/want to act as mentors for less expert colleagues. That said VT as a 'community of practice' (Lave and Wenger, 1991) provided a supportive and effective environment for VDPs and trainers to develop professional practice.

This study assesses the effectiveness of an apprenticeship type of training for newly qualified dentists in the UK. The master-apprentice relationship is well established in all of the medical disciplines. I find it somewhat surprising that such a short period of vocational training has been established as, based on the experiences of a friend during our years at Edinburgh University together, there was a substantial component of closely monitored professional clinical training prior to graduation. However, an additional training can only be of benefit to the dentists, their patients and society as a whole. It is encouraging to find that the study was able to measure success in an effective way. I have marked this thesis as a one where I would like to review the entire manuscript as it has immediate application to the way in which we measure competence in our graduate veterinarians.

An additional interesting point is that the abstract mentions that the trainers expand their own knowledge in the process of training. I have found that this is particularly true in my career.

2 Crocker, Barbara J. (2004) Exploring high-performance teams in public health. M.A. dissertation, Royal Roads University (Canada), Canada.

This research project explored the applications of multidisciplinary, interdisciplinary, transdisciplinary and high performance teams in the Zero to Five Program of the Infant, Child and Youth Program in Vancouver Coastal Health. Quantitative (survey questionnaire) and qualitative (focus groups) research methods were used. A survey on team performance, administered across all six community health offices in Vancouver, indicated teams could benefit from enhancing their team functions. Two focus groups, with program managers and a multidisciplinary health team, provided insights into teams, communities of practice and organizational change. The results generated a number of recommendations in the areas of team building, skill development in team building, communities of practice and support for staff during organizational change. This was timely as the program will be redesigned in 2005. To further understand team development in public health, research exploring the impact of social identity on implementing multidisciplinary, interdisciplinary and transdisciplinary teams would be beneficial.

This abstract describes a case study of a complex public health problem and describes how knowledge management techniques, and specifically CoPs, can be employed in finding solutions. Studies of this nature provide material for application to new complex health problems as they arise. The study has merit as an example that can be used when faced with similar complex problems in human medicine, veterinary medicine and at the complex boundary between these two disciplines and where public health and zoonotic disease and food safety interact. I will be passing this reference to a college working in this area.

3 Dauberman, Judy L. (2004) At the intersection of self, community, and culture: Emerging academic and professional identities. Ph.D. dissertation, Stanford University, United States -- California.

Internship opportunities for college students who are in the nascent stages of their career development serve as a foundation for the development of identities and provide learning experiences that have long-term consequences for academic and professional development. Students enter into internships with prior educational and professional trajectories and bring to their learning experiences self-processes that are integral to identity formation (Connell, 1990). Learning communities, to which the students-as-interns are seeking membership, also have motivations, interests, and goals that co-participate in the students'

identification processes (Wenger, 1998). Further, individuals and the communities to which they are seeking membership influence and are influenced by the wider cultural worlds of like-minded practitioners (Holland, Lachicotte, Skinner, and Cain, 1998).

This research focused on identity development in college students and sought to answer the question: How do academic and/or professional identities evolve through college students' participation in internship learning environments, and what are the interactional processes that are most salient in the students' developing identities?

Twenty-five college students who participated in a yearlong internship program were interviewed during the 12-month period. Twelve students were selected for an in depth study. In addition, significant others who worked directly with the student interns were interviewed to ascertain a sense of the communities' practices that influenced the students' identification processes.

The results of the interviews showed the students' educational and professional trajectories, interests, and goals, and the communities' interests and motivations contributed to the students' sense of identification with both their local communities of practice and the wider cultural worlds of like-minded practitioners. Further, the students' sense of identification was related to their ability for self-authorship (Baxter Magolda, 1999), and to the communities' capacity for supporting the students' development of competency, autonomy, and relatedness in their work (Connell, 1990).

Future studies on identity development in college students should focus on the interaction between the individual, community and cultural environments. Colleges and universities programs that focus on students' academic and professional identity development should consider identity formation as a co-construction between individuals and the learning communities in which they engage, and should design learning environments that support students' academic and professional identity development.

This abstract describes the development of the professional identity of interns. The abstract does not specify which discipline or disciplines. Internships are an important component of training in medical and veterinary medical practice. As the abstract suggests, this is an important time in the development of the professional and to a degree the personal identity of the intern. An internship in either of these professions is an extremely stressful year. This is also an abstract that is worthy of further study. Any steps that can be taken to both make the internship less stressful and help these young people develop a sense of their professional identity will be beneficial.

4 Hudzicki, Janet (2004) The transition from novice to expert within the medical technology community of practice: A phenomenological inquiry. Ph.D. dissertation, Kansas State University, United States -- Kansas.

The development of expertise is a phenomenon that is little

understood. Although there is a body of research that examines the characteristics of experts and compares experts to novices, the literature on the actual transition process lacks depth. The transition from novice to expert is analogous to the transition that occurs in Lave and Wenger's description of legitimate peripheral participation. The novice, who enters a community of practice on the periphery, gradually transitions to full participation and becomes a master or expert in that field. It is also related to the learning theories associated with the principles of situated cognition.

This dissertation described an investigation of the transition from novice to expert in the medical technology community of practice using a phenomenological approach. This profession was selected because of the researcher's background in the field as both a practitioner and an educator. The sample selection process consisted of soliciting names of expert medical technologists from the members of the Clinical Laboratory Managers Association. The potential participants were randomly selected from the submitted names and asked to participate in the study. Data were collected by semi-structured interviews until thematic saturation was reached. Data analysis commenced following the final interview.

This research investigated the structure and essence of the transition from novice to expert, including a search for factors that foster the development of expertise. Twenty themes extracted from the data were placed into four categories: the structure of expertise, the essence of expertise, learning, and a category of miscellaneous themes. Four factors were determined to be essential to the transition process:

Self-directedness in learning, storytelling, mentors and mentoring, and reflection. In addition, the transition from novice to expert requires being part of a vital, robust community of practice. Recommendations for helping novices with this transition are discussed. This research contributes to the literature on expertise, legitimate peripheral participation, situated cognition, and medical technology. The results have the potential to impact the education and training of medical technologists, the enculturation of novice medical technologists into the profession's community of practice, and the development of expertise in medical technologists.

This study is a very relevant to my own work, in that it applies to both the training of technologists and to the training of radiology residents. It emphasizes the legitimate peripheral participation model and documents the transition from novice to expert. It also emphasizes the role of CoP in this process. As I reflect on my past experiences, it is clear that informal CoPs form without being recognized as such, but clearly they are a very important part of this transition. I see an important role for fostering the development of CoPs in this context. Reading the complete thesis is essential.

5 Karr, Deborah (2003) Literacy, socialization and legitimacy: Teaching assistants and students joining an academic community of practice in a

second language. Ed.D. dissertation, Temple University, United States -- Pennsylvania.

Looking through the lens of the Communities of Practice framework (Wenger, 1998), this qualitative study focuses on the experiences of three second language (L2) Teaching Assistants (TAs) teaching ESL sections of freshman composition at a large urban university. It critically examines the relationship between the literacy ideologies and practices of the university and those of the L2 TAs, and how this relationship constrains and/or facilitates their literacy learning and socialization processes and, in turn, their classroom practices. Based on interviews, participant observations, and student writing, findings uncover the complexities of these relationships and demonstrate how they ultimately influence each TA's L2 students in terms of their ability to learn the literacy practices of a university writing program and gain legitimate membership therein. Findings also demonstrate the importance of "critical framing" (New London Group, 2000), or reflective dialogue between community members that addresses issues relative to the positioning of language minorities within academic communities and thereby challenges the status quo. As illustrated in this study, without critical framing L2 TAs and students may forever remain isolated within communities that perpetuate their marginalization. Results provide evidence for challenging traditional assumptions of academic literacy and designing learning environments that better meet the needs of L2 writers en route to becoming legitimate members within academic communities that embrace "diversity as a valued and productive resource" (New London Group, 2000).

This study looks at the role of CoP in developing literacy and social contacts for teaching assistants who have English as a second language. This study has immediate application in my world as we have many graduate students, house staff and clinicians for whom English is a second language. Anything that can be done to prevent them becoming or remaining marginalized in the community is important. Depending on the numbers from each geographic area informal CoPs do form. This study may provide help to encourage these and larger CoPs.

6 Kwon, Samuel Moonha (2003) Promoting social skill development in a community of practice. Ph.D. dissertation, Northwestern University, United States -- Illinois.

This dissertation, broadly speaking, is about building communities that facilitate learning. There are many documented efforts of designers creating community environments to enable improved student learning. Many of these efforts involve giving students the opportunity to participate in interesting settings with novel, educationally beneficial roles. Sometimes, the roles are complex, and students can find themselves without the social skills to participate effectively. When widespread, this social

deficiency can interfere with the functioning of the community, and reduce the effectiveness of the environment for promoting student learning. This dissertation explores the question of how to help strengthen sub-optimally functioning community implementations with problems of this sort. Drawing on ideas from a "community of practice" perspective, an intervention was designed for one particular student community engaged in the learning of computer artifact construction skills. Through the implementation of this intervention, the impact of explicitly promoting social skill development on overall community functioning and on student learning was explored. Some outcomes of the intervention included (a) desired social behaviors modeled in formal settings, transferring to unsupervised informal settings (including more frequent peer-to-peer knowledge sharing, greater student involvement in the management of work progress, and better use of shared resources) and (b) better community-wide technical learning.

This work provides a case study of how to strengthen weak community implementations. It suggests the importance of a healthy social culture in enabling the proper functioning of community learning environments, and provides a model for how to promote social skill development in other community learning environments.

The application of this abstract lies in both clinical practice and teaching. In clinical practice it is relevant in the area of encouraging the development of the necessary social skills in student veterinarians, interns and residents. It is interesting to note that that one of the successful interventions was "desired social behaviors modeled in formal settings". This can be translated to professional role modeling, something that in my world is much alluded to, but rarely discussed as to what it actually is, particularly in the academic setting. The abstract implies that students learn much faster when they function in a CoP and are able to share experiences. I believe that this could have immediate application in taking steps to foster a CoP in the yearly crop of new interns in, at least my institution, and probably much more broadly.

7 Nardone, Marie Koval (2003) The development of competence by physical therapy students during clinical education. Ed.D. dissertation, University of Delaware, United States – Delaware

Introduction . Physical therapists develop competence in both the academic and clinical settings. During clinical education, students are challenged to participate more fully as a member of the community of practice of physical therapy. Research problem . Physical therapy students may perform competently in the classroom and laboratory environment, but still have difficulty in demonstrating practical competence in the real world. The purpose of this project was to develop an understanding of how competence develops in the clinic utilizing the framework of situated cognition. Theoretical framework . Students are developing practitioners of physical therapy. They resemble apprentices (Lave, 1988) as they

gradually develop into practitioners. Situated cognition theory provides a framework for analysis of development of competence in the real world. Students have specific classroom knowledge and skills which their supervising clinical instructors expect them to demonstrate; therefore, there are additional considerations that do not apply to the apprentices whom others have studied. **Methods** . The paper uses a qualitative case study design. Two students were observed as they participated in the real world of physical therapy practice. I interviewed the students and reviewed their journals, logs, and other artifacts. **Data analysis** . Data from the observations, interviews, and artifact review were analyzed utilizing Bogdan and Biklen's (1992) classification system. Each segment of data was coded and placed in a folder with other segments with the same code. Once the data has been sorted into folders, the data was analyzed for themes within each folder using Bogdan and Biklen's (1992) methodology. **Triangulation of method** was utilized. **Findings** . The clinical education experience mimics the apprenticeship (Lave, 1988). During the early part of the affiliation, students participated in segments of the practice of physical therapy. As time progressed, they gradually became legitimate participants (Lave and Wenger, 1991). The students developed strategies which assisted them in connecting academic and clinical experiences and in demonstrating clinical competence. **Implications for practice** . Situated cognition provides a useful perspective for examining the development of physical therapy entry level competence and describing characteristics of the clinical education environment.

This study investigates physical therapy students developing clinical skills. It confirms the legitimate peripheral participation concept in the development of mastery of the discipline. An interesting comment is made that “situated cognition provides a useful perspective for examining the development of physical therapy entry level competence and describing characteristics of the clinical education environment”. This topic, in addition to reading the full thesis, is a learning issue for myself as there is potential for improving the methods that we use to evaluate progress in the development of clinical skills in veterinary medicine at both the undergraduate and graduate level.

8 Plack, Margaret M. (2003) Learning communication and interpersonal skills essential for physical therapy practice: A study of emergent clinicians. Ed.D. dissertation, Columbia University Teachers College, United States -- New York

The purpose of this study was to understand how students and novice clinicians learn communication and interpersonal skills integral to physical therapy practice. Underlying these interactions are the attitudes, values and beliefs fundamental to being a professional. A multi-case qualitative research study was designed to answer four major research questions: (a) what is the process by which students and novice clinicians learn to interact and communicate within a professional

setting? (b) what strategies do students and novice clinicians use in learning to interact and communicate within a professional setting? (c) what do students and novice clinicians learn that enable them to interact and communicate within a professional setting? (d) what supports and impediments do students and novice clinicians experience in learning to interact and communicate within a professional setting?

Interviews and critical incidents were used to explore the experiences of students and novice clinicians. Interviews of their most recent clinical instructor or clinical supervisor, and critical incidents from their classmates, were used to corroborate and augment the data. Two summative focus groups were used to confirm and extend the findings, conclusions and recommendations. Data were coded and analyzed for themes surrounding learning from experience and mentorship relationships within a community of practice.

Findings portray a process of learning, which incorporates access to the clinical environment and all of its challenges; dialogue as a mechanism to negotiate shared meaning; and learning outcomes, which include the values, beliefs and attitudes of the profession. Optimal learning draws upon the supports of the student, clinician and community of professionals in a triadic relationship. It is this process that moves the student and novice clinician toward the development of a professional identity.

The researcher concluded that active engagement in practice and dialogue with experienced clinicians, were critical to the professional development of novice clinicians. Therefore, the researcher recommends that the complexity of this learning process be conveyed to students, clinicians, and academicians, to enable them to more effectively design and engage in clinical experiences that optimize learning for both the learner and the clinical community.

This study explores how students learn the communication skills required in clinical practice and clearly has immediate application in the training of veterinarians. Although it is never specifically mentioned in the abstract the study describes legitimate peripheral participation. It also emphasizes the use of dialogue in learning, no doubt informal CoPs develop in each class to facilitate this process. The research methodology describes collection of narrative data and extracting themes from the data.

9 Wettlaufer-Adcock, Christine (2004) The storyteller as knowledge transfer agent: Facilitating transformational learning in the adult classroom. Ph.D. dissertation, Walden University, United States -- Minnesota.

In this phenomenological investigation, storytelling is examined as a strategy for nontraditional adult education in an Even Start family literacy setting. Exploring teaching strategies is more important than ever in the changing face of adult education. In the corporate setting, storytelling is increasingly being used to educate adults; however, little is known about storytelling in traditional postsecondary and

nontraditional adult education.

Ten coresearchers were selected to examine their storytelling practices. Storytelling was a significant factor in the following eight themes: establishing relationships, empowering learners, enhancing communications, building communities of practice, transferring tacit knowledge, promoting critical thinking, and facilitating transformational learning. Coresearchers also identified ways of handling potential risks of storytelling.

The social implications of this research are great. Storytelling not only preserves history, but it shapes futures as well. It is a valuable knowledge transfer strategy for educators and adult learners in family literacy projects. Through storytelling, adult students adjust to academic life, improve self-esteem and learning efficacy, and transfer and retain knowledge. Even Start programs strive to serve families most in need. This often includes migrant families and those from multigenerational poverty. Storytelling is a promising strategy to help break the cycle of poverty and illiteracy in America's families. Storytelling helps family literacy educators address complex personal and social problems of adult students. While storytelling is a promising strategy in family literacy education, perhaps the greatest social implication of this research is the potential impact on the children from migrant and multigenerational poverty families.

This abstract has application to both formal teaching and clinical training. I have chosen to include it with clinical training because the results support one of the increasingly important techniques that are used, particularly at the undergraduate level. That technique is the use of narrative in teaching. The method is usually referred to as case based teaching, where a clinical case is used as the basis of discussion. In most cases, the instructor, and to a lesser degree the students will use narrative to explore the issues involved. My experience of this technique is that it does indeed support the eight themes that are outlined in the abstract.

10 Bridgeford, Tracy Beth (2002) Narrative ways of knowing: Re-imagining technical communication instruction. Ph.D. dissertation, Michigan Technological University, United States – Michigan.

Most teachers of technical communication generally agree with Bertie E. Fearing and W. Keats Sparrow's statement in 1989 that the chief aim of technical communication service courses is to prepare students for work. Although some studies can tell us something about the competency requirements necessary for membership in technical and scientific communities, they cannot reveal the nuances of implicit knowledge that underlie their localized practices. Because we are not privy to these localized ways of knowing, we need to re-imagine technical communication instruction in ways that address how communities of practice enculturate newcomers.

I argue that narrative ways of knowing--the construction of stories about practice--can be used to create a pedagogy of enculturation to establish a localized community within the classroom that positions students as newcomers. Narrative's role in this imaginary community is that it creates a context for role playing, providing material for enculturating and inhabiting the community of practice established in the classroom. Because narrative is inherently interpretative, it supplies a rhetorical context that encourages meta-analysis, especially in terms of understanding the nuances of implicit knowledge. By engaging in meta-analysis, students learn to recognize and interpret a community's narrative accrual that embodies its ways of working, expectations for belonging, and rules for negotiating meaning.

Using this conceptual framework, I designed a technical communication service course that uses narrative ways of knowing as a pedagogy of enculturation and developed an evaluation schema for measuring students' level of interpretable access--the ability to recognize, reiterate, and add value to a community's narrative accrual in ways that legitimate competent membership. I then apply this evaluation schema to students' technical documents, demonstrating the procedures for evaluating interpretable access. Based on the results of this analysis, I conclude with some consideration of the challenges and implications for using narrative ways of knowing as a pedagogy of enculturation.

This abstract explores the use of narrative in teaching technical competence. Clinical competence is synonymous with technical competence, although some would argue that there is a greater intellectual component. The study confirms that narrative is a useful tool in this context. Very importantly for me, the study indicates that a measure of assessment of technical competence was developed. The clinical world is always looking for better methods of assessing competence. This is a thesis that needs to be evaluated in full.

11 Bronson, Lila Wills (2002) Technology, adult learning and the development of digital literacy skills. Ed.D. dissertation, Pepperdine University, United States -- California.

This study evaluated the implementation of a Technology Literacy Challenge Grant, Project TREK, in a small, urban kindergarten through eighth grade school district. The project involved teaching fifth- and sixth-grade students to attain digital literacy skills through the use of portable keyboards and word processing software by training their teachers to integrate technology into classroom instruction. There were 25 teacher participants from four elementary sites, two trainer/coordinators, and four administrators involved in the study. The study assumed that teachers would become more comfortable in their use of technology with ongoing staff development and support, but that a thorough knowledge of the barriers to successful classroom use of technology was needed.

A qualitative, descriptive case study methodology was used to conduct the

research. Data were gathered using surveys, online questionnaires and in-depth interviews with one third of the participants. Results indicated that teachers were making progress in adopting technology instructionally but still needed personal coaching and ongoing support.

Participants in the study reported positive results with their students when using the portable keyboards and word processing software especially in the appearance and quality of student writing. Due to their lack of overall instructional proficiency with technology, most teachers were not using these tools to teach the entire writing process from prewriting to final draft. Instead, they were using them to publish partially edited student writing. Teachers reported that lack of time for planning, collaboration and familiarizing themselves with the technology tools was a major obstacle. Not having Internet access in their classrooms was also considered a barrier to effective use of technology instructionally.

Conclusions include the need for more consistent district-wide training in pedagogy that supports the integration of technology into the curriculum, builds communities of practice, and teaches technology-assisted process writing techniques. This can be accomplished by using a personalized training/coaching model using rubric-driven Individual Learning Plans for each participant and by providing regular opportunities for teacher collaboration.

Recommendations include developing a district-wide mandate for electronic writing portfolios that include Internet research projects and computer assisted student writing that has been assessed using standards-based rubrics. In this way teaching writing using technology tools should become an integral part of the language arts program and thus of instructional practice.

Although at first glance this study appears to address literacy training in school children, it has a significant component of training of teachers in the use of digital technology. It is for this last reason that I have chosen to include the study in the clinical training section. Almost all clinical practice involves digital technology and the introduction of new digital technologies. The study notes that the teachers must be fully competent with the technology before they can use it in teaching. This comment also applies to clinical training. The study emphasizes the importance of CoPs in the development of this degree of skill.

12 Carroll, David Mausfield (2001) Collaborative professional learning: Creating a community of practice among school and university partners in teacher education. Ph.D. dissertation, Michigan State University, United States -- Michigan.

This study investigates the development of educative mentoring practices in the context of a school-based mentor teacher study group. In a combination professional development and research project, the researcher developed a study group among 5 collaborating teachers working

with teacher education interns in an urban elementary school. The professional development component of the project combined the study of artifacts and accounts of participants' mentoring practice, with inquiry-oriented discourse around emerging ideas about mentoring, in a sustained effort to engage mentor teachers in constructing their own understandings of that practice. Leadership for the study group was designed to implement collaborative learning guided by ideas about critical collegueship and learning in communities of practice. The study focuses on how collaborative inquiry in the study group influenced participants' learning by analyzing what they learned about mentoring, how that knowledge was constructed in the study group, and how individuals acted on their learning in their mentoring practice. Using an approach to conversation analysis featuring the constructs of participant structures and participant frameworks, the study examines how study group discourse engaged participants in negotiating the meaning of mentoring experiences and collectively constructing more and more collectively warranted ideas and commitments about mentoring practice. The study also draws implications for leadership for inquiry-oriented discourse in study group contexts.

This is a study that is based in the training of teachers, but has direct application in my world to the training of interns and residents. The study emphasizes the importance of CoPs as a component of the learning process. The abstract alludes to comments regarding leadership in CoPs in this context which indicates that a review of the entire thesis is likely to be rewarding.

13 Chin, Nancy Perini (1999) Medical students' outreach to the urban poor. Ph.D. dissertation, The University of Rochester, United States -- New York.

In this dissertation I examine the relationship between medical education, community health, and urban poverty in the United States. Through ethnographic research of a medical student voluntary outreach program to the poor, I explore the ways in which medical students encounter, understand, and give meaning to their experiences with the poor. My field site of Rochester, NY presents a unique community in which to do this research for several reasons: it has been held up as a national model of health care for its comprehensive, low-cost health care system and yet has persistently poor community health outcomes. Moreover, Rochester has a school of medicine renown for a model of medical practice which seeks to incorporate patients' social context into the process of diagnosis and treatment.

I argue that the American cultural context of radical individualism shapes a medical ideology that reifies physicians, and that consequently, medical education aims to produce more culturally sensitive physicians, without, however, changing health outcomes in poor communities. My research also

explores the other side of student outreach to the poor, i.e. women in one particular shelter. I argue that the poor women here represent, in contrast to the medical students, knowledgeable subjects who through mutual support and collective action, seek to transform the social conditions of poverty.

My research also shows that medical students, in their capacity as adult learners, recognize the transformative power of learning through social interactions, and create communities of practice in which to learn. However I argue that medical students do not use this transformation to question or challenge the forms of social organization that promote and perpetuate poor health outcomes in impoverished communities; students mostly assume the definitions of reality given to them in their medical education. This study reveals that even in the best of programs, a medical ideology of individual responsibility for physicians and patients, does little to bring about better health outcomes. Increased morbidity and mortality rates among the poor, and most notably among African-Americans, need to be addressed in new ways that combine caring physicians with more comprehensive programs that focus on the social good.

This study is based in a topic of medical practice and the social implications for the economically challenged sections of society. Although it has little direct application to veterinary medicine some of its conclusions can be applied to dealing with situations where animal owners simply cannot afford the cost of treatment for their pets. Training student veterinarians in this subject can be challenging as not all of the students are sufficiently aware of what it means to be poor.

14 Eisemann, James Phillip (2002) Apprenticeship: The wright adult education. D.Ed. dissertation, The Pennsylvania State University, United States -- Pennsylvania.

This study examines the experiences encountered and provided by master craftspeople involved in apprenticeship. How do master craftspeople define mastery in relation to apprenticeship? In the master craftspeople's experience what types of persons successfully undertake apprenticeship? What aspects of apprenticeship do master craftspeople see as viable in training their successors? What aspects of apprenticeship changes or additions would assure the education required of the community of practice?

Apprenticeship is an ancient system with a long and convoluted history. Mid-20th Century saw a revival of interest and expansion of the process. The outcome of this metamorphosis was craft mastery, rather than journeyman training, becoming the goal of apprenticeship. By seeking a definition of mastery this study proposes a standard for apprenticeship. Secondary vocational education and social changes opened trades to new groups of aspirants to mastery. Alternative routes have also come into being. Apprenticeship remains the most promising route to a large group of

aspirants. This study seeks to delineate that group.

Apprenticeship provides leadership, especially in construction and metal-working. The foundations of apprenticeship are deep and on solid educational rock. This study seeks to point up those areas of success so they can be built upon.

At the beginning of the 21st Century technology is pervasive. Management techniques are changing demanding more of craft masters. This study seeks to propose changes that will expedite improved apprenticeship.

This is a qualitative study using heuristic inquiry methods. 53 master craftpersons and 4 apprentices were interviewed and observed in the data-gathering phase. This data was analyzed and several proposals are made. (1) Apprenticeship programs would benefit by becoming more involved in secondary and post-secondary programs. (2) Modern apprentices are adults. Apprenticeship should fall within adult education. (3) Master craftpersons are critical to apprenticeship training. However, in an age of specialization a single master cannot present every aspect of the trade. Apprentices would be better served if classes were facilitated by an adult educator using the talents of many master craftpersons. (4) Existing post secondary institutions present an almost ideal venue for apprenticeship education.

Specialized training in veterinary medicine, and also in human medicine has a significant component of the master-apprentice approach. To a lesser degree this also applies to student veterinarians. The study concludes that there is a role for the master-apprentice relationship in the 21st century, and this is clearly the case in veterinary medicine.

15 Faber, Shawna Marie (1999) Renal failure: A sociocultural investigation of an illness. Ph.D. dissertation, The University of British Columbia (Canada), Canada.

People living with renal failure experience enormous challenges, yet very little is known about life with this disease. The goal of this research was to gain an integrated understanding of the lives of people with renal failure. An understanding of life with renal failure that includes cultural, institutional and historical contexts may provide health care practitioners with the kind of information and insights necessary to improve medical practice. Thus far, medical practice has been based on a biomedical model of care that focuses almost exclusively on the physical aspects of illness. From this perspective, people with kidney disease are seen as autonomous and rational individuals. In this research, a sociocultural multiple case study approach was utilized in order to gain a situated understanding of life for four people with renal disease. This research revealed that life with renal failure is work. While it is the people living with renal failure who do the bulk of the work, friends and family also work to "live" with renal disease. Participants and their significant others learn about and become experts on life with this

disease. A gap was found between practitioners' understanding of disease and participants' lived experience--resulting in many negative repercussions. Medical-based knowledge is lacking because it does not consider the three relevant sources of knowledge: practitioners, participants and participants' significant others. This research argues for a bridge between the home world and the hospital world, so that a broader community of practice is created. An account of the lived experience of people with renal failure that includes these factors can inform "best practice" because it provides a richer and more authentic picture of life with this illness. It is from this perspective that health care practitioners can begin to broaden their understanding of renal failure as it is "lived", and, so informed, can better provide the kinds of education and support that will enhance the lives of people with this illness.

This study explores the relationships between people with serious illness, their care givers and home support. It makes the point that with feedback to the medical practitioner, presumably through a community of practice, the quality of advice and support to new patients could be improved. The study has much wider implications, both for other diseases and for certain diseases in animals. Interestingly, the abstract gives the impression that CoPs of this type do not exist, however I suggest that there are numerous examples of support groups that exist for a wide variety of diseases that function as CoPs.

16 Manske, Stephen Ross (2001) Explaining knowledge use among clients of the Program Training and Consultation Centre. Ed.D. dissertation, University of Toronto (Canada), Canada

The central question this research answered was What factors account for variation in knowledge use following receipt of service from the Ontario Tobacco Strategy's Program Training and Consultation Centre (PTCC)? Its intent was to extend understanding of theoretical constructs related to knowledge utilisation in the context of health promotion. A review indicated that relatively little systematic effort has examined how health promoters use research and that existing research had used a limited set of variables to explain health promotion research use. A framework from education (Cousins & Leithwood, 1993) provided an opportunity to test an expanded range of variables in public health. The framework consists of variable domains related to (a) the Source and Information, (b) the Setting for Improvement and (c) Interactive Processes.

Study 1 consisted of a structured telephone interview of 181 health unit staff (86% response rate) listed as PTCC clients in the past year. The survey sought respondent perceptions about the intervention using quantitative measures of variables derived from the SOURCE AND INFORMATION domain. Principal components analysis identified conceptual (CKU e.g., learning) and instrumental (IKU e.g., decision-making) uses of knowledge.

Hierarchical regression analyses indicated two factors (intervention intensity and quality) contributed to explain 11% of the variance in CKU. For IKU, the factors intervention quality, complexity and trialability explained 9% of the variance.

Study 2 consisted of in-depth interviews at one high-use and one low-use health unit. Sixteen staff responsible for tobacco education or enforcement described their knowledge use in terms of all three domains of the framework. Interactive processes were most central to CKU and IKU. However, variables from the Information source and Setting domains also played important roles in explaining knowledge use. Results were explained in terms of developing communities of practice.

Future research should refine measurement, clarify the meaning and application of evidence-based practice and examine how to improve collaboration of research producers and users.

Both studies confirmed that overall knowledge use following PTCC services is relatively high. Despite this, public health should explore ways to enhance the quality of knowledge use by increasing amount and quality of interaction among staff.

This abstract describes a bold study that investigates the variables that explain different levels of utilization of health related information. The context of the study is reduction of tobacco use. There does not appear to be any direct involvement of CoPs. The study demonstrated that the most significant variable in differences of utilization of the provided information were the intervention quality and intensity complexity. Quantitative studies of this nature are important in ensuring that resources are used as efficiently as possible. The use of these quantitative techniques has application beyond the healthcare arena.

17 Matsuda, Sandra Jean (1999) Information-seeking activity of rural health practitioners. Ph.D. dissertation, University of Missouri - Columbia, United States -- Missouri.

Information-seeking activity (ISA) of rural health practitioners was explored using qualitative methods of participant-observation, document collection, and in-depth interviews. Field notes and documents were collected in two rural nursing homes. Sixteen occupational, physical, and respiratory therapists, radiological technologists, speech/language pathologists and nurses described situations in which they needed information to solve clinical problems.

The study identified the following: how context influenced ISA; core strategies, conditions, and consequences of ISA; barriers and preferences. Contextual differences appeared in how travelers and locals used time and resources. Locals were more connected to their community and work setting. Travelers had connections outside the work setting. Making connections emerged as the core strategy used. Sub-dimensions were making connections with internal resources (skills and knowledge) and external resources

(human and non-human). Core conditions were access to time and resources. Consequences were resolution, increased competence, and more questions. Barriers were classified as internal, intangible, and tangible.

Preferences included technology access and continued learning close to home.

Conclusions were that (1) ISA is regulated by a work environment that dictates demands as well as resources; (2) practitioners are influenced by their environment and play an active role in modifying it; (3) practitioners can be empowered by their environments in seeking information; and (4) investment in a community of practice can make it easier for rural practitioners to seek information and to serve as information providers.

This study investigated the frequency with which health care practitioners sought information and the ways in which they did this. Developing a social network was an important component of how information was acquired, but was influenced by the environment in which the individual work. The study concluded that establishing CoPs was likely to be beneficial to this community.

18 Murray, Mary M. (2002) Graduate students' perspectives of family-centered practices in a masters-level early childhood special education preservice program. Ed.D. dissertation, Bowling Green State University, United States Ohio.

This study sought to explicate graduate students' perspectives of family-centered practices in a masters level early childhood special education preservice program. Specifically, the purposes were fourfold. First, the study investigated how family-centered practices were embedded within the early childhood special education preservice program. Second, it examined the program graduates' perceptions regarding which instructional strategies, pedagogy, and practices of their preservice training program supported the implementation of family-centered practices in their career. Third, this study examined the graduates' perceptions of their use of family-centered practices in their employment since graduation. Finally, supports and barriers to the graduates' implementation of family-centered practices in their chosen careers were identified.

This qualitative study was conducted utilizing a case study approach in the realm of phenomenological research. There was a total of 23 participants: 22 graduates and the project director. The participants in this study had the unique opportunity of being immersed in a two year graduate program with a design utilizing "best-practice" core competencies and guidelines within a community of practice mode (Wesley & Buysse, 2001) that involved partnering with parents and community providers. The participants experienced multiple opportunities for knowledge and skill development through coursework, seminars, and field placements. Data were

collected through interviews, and examination of the grants and course syllabi. Data were analyzed using the constant comparative method. Trustworthiness and consistency of the data collection and analysis were done through peer debriefing, audit trails, and member checks. As an assurance of confidentiality, participants were referred to by numbers with no directly identifiable descriptions. Findings were reported through the presentation of major themes that emerged from the data. The results of the study indicated that embedding family-centered practices throughout the graduate program by providing students multiple opportunities to interact with families of children with disabilities as part of their coursework and field experiences facilitated the graduates' utilization of family-centered practices in their chosen careers thus bridging the gap between theory and practice. Specifically the involvement of parents of children with disabilities as instructors and coinstructors for coursework, guest speakers, panel members, and as cohort members had a positive impact on the graduates' desire and ability to implement family-centered practices in their careers.

This qualitative study investigates the value of situated learning in the context of family centred early childhood special education . It concludes that this is a valuable experience for both the trainees and the children and their families.

19 Redmond, Pamela Anne (2002) Building a community of practice: A case study of technology-augmented mentoring for new teachers. Ed.D. dissertation, University of San Francisco, United States -- California.

The state of California, along with many other states in the nation, faces a severe and debilitating shortage of qualified teachers to staff K-12 classrooms. According to one source, the California shortage is predicted to exceed 309,000 by the end of the decade (Center for the Future of Teaching and Learning, 2002). To help address this shortage, California has established a program of support for first and second year teachers to provide "gradual phase-in of support and assessment" for beginning teachers. This project is entitled the Beginning Teacher Support and Assessment (BTSA) Program.

To increase the professional skills of beginning teachers, induction programs including locally available classes and new teacher mentoring have been implemented. However, the current demand for mentor teachers far exceeds the available supply of technologically skilled veteran teachers. One way to extend the ability of a given mentor teacher to work with a larger pool of beginning teachers (protégés) is through technology such as electronic communication tools.

This study explored the use of online communication between a single mentor a group of 21 new teachers, 13 of whom used individual emails, group discussions and mailing lists to support interaction with the mentor. The resultant community of practice investigated individual issues

and classroom dilemmas with success. The research identified extrinsic and intrinsic barriers to use of the technology. Research questions included: critical factors required to successfully augment mentoring for new teachers through communication technology including essential conditions, new teacher skills and mentor skills; professional impact of using online communication upon beginning teachers; perceived usefulness of technology to augment mentoring.

The careful use of electronic communication to support new teacher mentoring was found to produce a positive impact on professional development. Technology augmented mentoring was perceived to have assets worth further investigation for broad use in the mentoring program. The concept of using technology tools to span time and distance, to enhance support for beginning teachers, and to provide avenues for collaboration and exchange of ideas is congruent with new technology standards established by the state.

I have included this abstract in the clinical training section rather than teaching because it has immediate application in veterinary medicine in the context of providing support to new graduates. Unlike human medicine, where all new doctors spend the first year after graduation in a clinical internship, the majority of new veterinary graduates go immediately into clinical practice. The limited number of internships that are available are located either in teaching hospitals or referral clinics. Many of the new graduates will have adequate support from their colleagues in practice, but not in every case. Establishing a CoP of the type described in the abstract would allow a single veterinarian, perhaps located in one of the veterinary schools, to provide mentoring to a large number of new graduates. The abstract implies that this was extremely successful in the context of providing support and mentoring to new teachers. Consequently, this is a suitable thesis for full review.

Research

Introduction

The abstracts in this section almost all presented a case where a CoP had been or would be of value in the specific context of the study. Almost of the situations directly relate to my current work and consequently 6 of the 8 theses are appropriate for further review. In this section the principle value for me is the context specific results, rather than the fact that CoPs are useful. It is noted that in abstract 2 the Cop directly led to innovative practice with regard to intellectual property and how it is shared, atopic that is of immediate relevance to my work.

Theses for Full Review

- 2 Sawhney, Nitin (2003) Cooperative innovation in the commons: Rethinking distributed collaboration and intellectual property for sustainable design innovation. Ph.D. dissertation, Massachusetts Institute of Technology, United States -- Massachusetts.
- 4 Quinn Trank, Christine Marie (2001) Faculty patenting and communities of practice: An exploration of institutional processes at the micro level. Ph.D. dissertation, The University of Iowa, United States -- Iowa.
- 5 Raven, Arjan (1999) Knowledge management for new product development meetings: The roles of information technology in shared knowledge creation. Ph.D. dissertation, University of Southern California, United States -- California.
- 6 Shankar, Kalpana (2002) Scientists, records, and the practical politics of infrastructure. Ph.D. dissertation, University of California, Los Angeles, United States – California
- 7 Katzenberg, Barbara (1997) Designing care: Evolving communities, working rules, and practice representations. Ph.D. dissertation, Stanford University, United States -- California.
- 8 Swieringa, Robert Cecil (1999) Talk and community: The place of reporting in a life sciences laboratory. Ph.D. dissertation, University of Illinois at Urbana-Champaign, United States -- Illinois.

Abstracts Reviewed

- 1 **Lowmaster, Nancy Elise (2003) Learning the art: Introduction of novice chemists into the community of practice through participation in undergraduate research in a liberal arts setting. Ph.D. dissertation,**

Cornell University, United States -- New York.

This study examines the nature of the undergraduate research experience in a liberal arts setting, specifically considering the degree to which undergraduate student researchers come to understand and participate in the community of practicing chemists, the ways the faculty research advisor facilitates the entry of these novice chemists into the community of practice, and the degree to which undergraduate researchers begin to develop identities as chemists. The study is a multimethodological case study of senior students performing undergraduate research at a small liberal arts college and the faculty who supervise them. The study focuses in particular on three undergraduate chemistry students, under the direction of the same faculty advisor, during their yearlong research projects. Data, which included qualitative surveys, semi-structured interviews, group meeting observations, and laboratory artifacts, were analyzed using constant comparative analysis and thematic methods.

The study found that questions play several important roles in introducing students to the community of practice of chemistry and that the formation of an initial research question by the undergraduate researcher is a first step in the development of ownership of the project. The questions that the research supervisor uses to guide the undergraduates enable the students to be more productive and also demonstrate the nature of science, the nature of research, and the practice of the chemistry community. The student's research committee serves as a link to and a model of the community of practice as well as a check on the validity of the research experience. The study also found that the research advisor plays a number of roles, all of which are "bundled" into a single individual who balances these roles based on the needs of the particular student. Research advisors were found to use stories to communicate important lessons about the practice of chemistry. The study asserts that as undergraduates participate in research, they begin to develop an identity as a chemist, an identity that is enhanced by having personal desk and laboratory space. The study also identifies three dilemmas of undergraduate research and discusses the implications of the findings for individuals and institutions engaged in such research.

This study explores the development of research skills in a group of undergraduates. It is an example of the master-apprentice role in introducing the students into the broader community of practice of their discipline, in this case chemistry. It emphasizes that certain specific points in the path to becoming a researcher are important components of developing that identity, in this case having a desk and laboratory space. The development of new researchers very much involves legitimate peripheral participation, the student slowly learns both the techniques, and perhaps more importantly, the way of thinking that is necessary to be a successful researcher.

2 Sawhney, Nitin (2003) Cooperative innovation in the commons: Rethinking distributed collaboration and intellectual property for sustainable design innovation. Ph.D. dissertation, Massachusetts Institute of Technology, United States -- Massachusetts.

Addressing global design challenges in the environment and underserved communities requires a cooperative approach towards sustainable design innovation, one that embraces multidisciplinary expertise, participatory design and rapid dissemination of critical innovations in the field. How can a rural farmer in Botswana cooperatively develop appropriate solutions for his community with external research expertise? How can a doctor in Sao Paulo access a network of medical device companies to help manufacture her design innovation? While there is a great emphasis on large breakthrough R&D innovations, there is often little support for developing and disseminating small-scale, affordable, and locally sustainable designs.

The open source phenomenon has been influential in the software community, however distributed collaboration in engineering design requires awareness and sharing of physical artifacts, design tools and working environments as well as novel mechanisms to support social norms, communities of practice, and intellectual property rights for product innovations.

ThinkCycle was created as a web-based collaboration platform with tools and shared online spaces for designers, domain experts and stakeholders to discuss, develop and peer-review evolving design solutions in critical domains. Over 2000 users worldwide access and contribute hundreds of concepts, resources, projects and publications on the site. ThinkCycle is emerging as a collaborative platform, open design repository and global community for innovations in sustainable design:

<http://www.thinkcycle.org>.

Studies were conducted on the nature of design interaction, learning and intellectual property emerging from studio courses run at MIT in 2001-2002. Cooperative design is best understood when viewed as a "social process", which is better sustained in online settings by peer-review from remote participants. There is a need for lightweight asynchronous interfaces with existing modes of communication like email. Social inquiry into notions of intellectual property reveal a typology of patterns with distinct forms of protection and disclosure, including patents and open source, adopted under different conditions. However, there is much ambiguity and conflict regarding how to deal with cooperative innovations as they evolve from being subpatentable learning experiments to functional and commercially viable solutions with potentially great social impact.

The thesis provides a framework within which we can begin to explore these challenges. (Copies available exclusively from MIT Libraries, Rm. 14-0551, Cambridge, MA 02139-4307. Ph. 617-253-5668; Fax 617-253-1690.)

This is an exciting study that explores what is essentially a CoP that involves researchers who individually contribute small innovations that collaboratively result in much larger innovations. It also indicates that the thesis explores issues regarding intellectual property. In my own world, I am aware that this type of sharing already occurs, specifically in terms of image processing software for analysis of magnetic resonance images. The abstract does not go into any depth with regard to the results, making this a must read thesis in order to explore how far this sharing has gone outside of my local community. The implications for intellectual property management that might be discussed are also very relevant to my own career.

3 Young, James Byers (2003) How experts learn outside the domain of their expertise: An exploration of a faculty community of practice. Ph.D. dissertation, George Mason University, United States -- Virginia.

As learning communities become more common in higher education, faculty are encouraged to make connections with peers from across the disciplinary landscape. However, little attention has been paid to how faculty learn, negotiate, and collaborate in order to properly prepare for, and teach in, interdisciplinary learning communities. Working together in this context typically requires that faculty learn how to negotiate outside one's professional training and/or comfort zone among diverse ideas and with a wide range of colleagues.

The purpose of this qualitative case study was to investigate how faculty gain knowledge outside the domain of their expertise. This was accomplished by investigating the various roles that faculty play in a team-taught, integrated, interdisciplinary course (Unit 1) in Margaret Dwyer College's (MDC) 1 Integrative Studies first year program at a comprehensive research university of 25,000 students. The highly collaborative nature of Unit 1 provides a rich context for faculty from across the curriculum to interact in a sustained and highly-charged group setting.

As the course is integrated and covers multiple content areas, the emphasis is on making connections among ideas, applying knowledge from one domain to another, and analyzing the interplay between theory and practice. Faculty, therefore, must alternate among the more commonly played roles of teacher/expert and the less commonly played roles of novice/learner and generalist/integrator. As learners, these faculty: show great latitude in their own ways of knowing; become attuned to the subtleties of their colleague's work styles and various areas of expertise; accept the process by which the course is run; admire freshmen students; collectively buy-into the process of intense teamwork; and gain knowledge through ongoing interactive and social processes. In combination, these elements allow faculty to cross boundaries, co-create and distribute socially shared knowledge, and generate team culture. This study has important implications for how faculty: approach new roles; exchange knowledge in learning communities; navigate interdisciplinary or

cross-departmental networks; negotiate complex, collaborative settings; and how interdisciplinary faculty communities of practice are important in transforming professional identity.

1 This is a pseudonym.

Although this study notionally reviewed how experts learn outside their area of expertise in the context of teaching I have chosen to include it in the research section. This is because its approach is more relevant to multidisciplinary research than teaching, although in my particular context it also has application in both teaching and clinical practice. Unfortunately, the study appears from the abstract to be entirely descriptive. It lists the techniques that were used by the participants. These can largely be summarized by stating that they had formed a very functional CoP and were doing everything in a classical CoP fashion.

4 Quinn Trank, Christine Marie (2001) Faculty patenting and communities of practice: An exploration of institutional processes at the micro level. Ph.D. dissertation, The University of Iowa, United States -- Iowa.

The micro level of institutional theory seeks to explain how individuals come to learn certain practices as "social fact" through sharing common experience with others and to describe the conditions under which individuals maintain these practices as external and objective over time and across contexts. The patenting of scientific discoveries by faculty members at universities is used in this study as the focal practice to be examined. Patenting, as an activity associated with commercial science, represents a particular type of practice characterized by a particular set of routines, goals, patterns of evaluation, and methods.

Faculty members learn about the scientific process in graduate school where, as students, they participate in a university's scientific community of practice. Later, as faculty, they may participate in a different community characteristic of their employing university. To assess influence of the level of commercial science practiced at each community on faculty patenting, data were collected on 670 faculty members employed in chemical engineering departments at 71 research universities. Logistic regression was used to determine the influence of the graduate school, the current university, and the interaction between graduate school community and current university practices on the likelihood of faculty patenting. Of the hypothesized influences on patenting, only the practices of the current university increased the odds of patenting. Neither the graduate school nor an interaction between current university and graduate school increased the odds of patenting.

For institutional theory, these data would seem to suggest that behaviors learned as "social fact" in one context may become extinct in communities where the practice is not institutionalized. Action will not be perceived as external and objective if there is no way to index individual action to

shared typifications. At the micro level, practices learned as social facts require continuing social referents to be maintained. For managers seeking to introduce new behaviors to a community of practice via selection, these data would seem to suggest that the new behavior may not become part of practice, but instead may itself become extinct as the newcomer reflexively monitors the shared practices of the community and comes to learn them.

This is probably the most important abstract involved in this project in the context of what will be of immediate application. My next major task is to review the University of Guelph's intellectual property policy. The study looks at the factors that influence a faculty member's attitude towards patenting and how they reflect the different CoPs that they are associated with at different stages of their careers. The abstract gives the impression that attitudes can easily be changed in moving from one institution to another, but within an institution the prevailing attitude is hard to change. This is a thesis that I must read in full.

5 Raven, Arjan (1999) Knowledge management for new product development meetings: The roles of information technology in shared knowledge creation. Ph.D. dissertation, University of Southern California, United States -- California.

The research that is presented in this document investigated the nature of collective knowledge creation and sharing, and the roles that information technology support can play in those activities. The research consisted of three field-based phases. In the pilot phase, the general research area and research questions were established. The next phase culminated in five initial research findings, refined research questions, and the choice of new product development as the research context. New product development was used as the context for the research because of its strategic importance, the increasing pressures to accelerate it, and the challenges in improving it. In the final phase, the theory of communities of practice was selected for the research. This theory was used as a basis for two models that were subsequently tested at two technology intensive companies. Data was collected through interviews in the pilot phase, and through a combination of interviews and questionnaires in later phases. The questionnaire data was analyzed using Partial Least Squares.

The research yielded a number of key conclusions. Teams of people doing knowledge intensive work such as new product development will benefit from acting as a community of practice by increasing levels of participation and reification. Such teams will create and share knowledge more rapidly, and will at the same time achieve higher quality of output. The study showed that documentation plays an important role in the creation and sharing of knowledge. In the research a distinction was made between formal and informal meetings, and it was found that for the different

types of meetings key findings were different. For instance, for informal meetings, documentation had a negative relationship with participation. Information technology support was shown to be important for shared knowledge creation in teams. Such support can be directed at interactions that take place during meetings (participation) as well as at the documentation and storage of information and knowledge around meetings (reification). The findings from the research suggest that information technology is currently more important for participation than for documentation reification, and more important for formal meetings than for informal meetings. New developments in information technologies are expected to change the role that technologies play in shared knowledge creation.

The study contributed to the field by operationalizing important concepts from the theory of communities of practice, and by extending and testing the theory. Further research is needed to test the generalizability of the findings to other organizations and different types of teams. In particular, it will be important to use the findings to identify ways in which virtual teams, these members do not meet face to face, can act as communities.

This is an important thesis in that it directly applies to my work. It reviews the functionality of meetings addressing new product development that can probably be generalized to other research communities. It emphasizes the positive and negative effects of prepared documents and information technology in the context of both formal and informal meetings. Among the conclusions are that documents are a hindrance at informal meetings. This has been my experience in that participants are either continually referring to the document, or have simply not read it, with the result that they are not fully engaged in the discussion. It also concludes that this is an ideal context to establish a community of practice. This is also a thesis that I will be reading in full.

6 Shankar, Kalpana (2002) Scientists, records, and the practical politics of infrastructure. Ph.D. dissertation, University of California, Los Angeles, United States – California

Although the production of primary documents and records is fundamental to the conduct of contemporary science, there has been little research into this topic. And yet, in the current climate of increased scrutiny of the scientific enterprise, there exists a pressing need to investigate the topic. This dissertation reports on a study in which, using ethnographic methods and archival analysis of primary documents, I studied recordkeeping as it is practiced in a basic research science laboratory. I conceptualize the record as a fluid, idiosyncratic, and personally embodied document, which may only indirectly reflect professional standards. I also examine the record as an actor in the trajectories of individual careers and lives as well as the history of the laboratory and explore how individual scientists mesh their personal

styles and recordkeeping needs with the needs of the group, the discipline, and the profession. In the discussion and conclusion, I suggest that the record as a liminal document and boundary object between multiple communities of practice is an ambiguous object, and that such ambiguity is both a resource and a problematic. This research project has import for a number of areas, both applied and theoretical--science studies, electronic records management, and science policy and education.

This abstract has direct application in the context of research management. Good record keeping is a critical part of all research, but, unfortunately, not all researchers are good record keepers. As the protection of new intellectual property becomes more important and accusations of plagiarism become more common, the value of good records increases. This is an introductory study in this area and review of the full thesis will no doubt reveal a fruitful field of investigation.

7 Katzenberg, Barbara (1997) Designing care: Evolving communities, working rules, and practice representations. Ph.D. dissertation, Stanford University, United States -- California.

Practice representations are artifacts used to guide people in doing their work. This dissertation looks at one group's effort to design a kind of practice representation--medical record to forms used in a breast cancer clinic--to structure how information is collected and documented. Over a period of 18 months, an evolving group is studied as they iteratively design and use forms. A tension for form creators is that each patient encounter is unique, but designing representations to influence future situations--or to gain insight into the patterns in past ones--requires treating them as if they were each instances of a type. Ethnographic analysis is used to explain how participants in the clinic come to work together over time, and how the design work interrelates with the emergence of a new community of practice. Discourse analyses make apparent how meaning is created over time, with members tying design proposals to design purposes and practice facts. Although the appearance of rational decision-making is maintained throughout, in the central example, the relationship between invoked purposes and the final design is weak. This is explained by the competing demands on the members' attention, which sometimes make mismatches unnoticeable to participants. In a situative analysis, the design meetings are presented as activity systems comprised of interacting individuals and their material resources. Group members are seen as designing affordances into representations based on their assessments of the attunements of users and the constraints of breast care practice. This analysis, with its focus on manipulating affordances to serve imagined future situations, makes the interaction recognizable as a design conversation. The dissertation ends by examining the Participatory Design methods used by the author in facilitating the design meetings, finding the approach to

assessment flawed. Assessment was based on members' diverse expertise, and their articulations of experience of form use. No attempt was made to gain a meta view of how care practice was changing. It is argued that if representations are to become living embodiments of a community's working rules, the assessment of practice outcomes needs to become a part of the design discussion.

This study investigates how a group functioned in the design of forms that are a part of the medical record in breast cancer patients and how they might be improved as a means of improving overall care of these patients. Emphasis is placed on the mechanism by which meaning is created. While this abstract could have been placed in the clinical practice section I have chosen to place it in the research section as the collection of data from clinical cases is an important segment of research. Collecting good quality data is very challenging and this study is likely to have more general application. This thesis is earmarked for reading the full document.

8 Swieringa, Robert Cecil (1999) Talk and community: The place of reporting in a life sciences laboratory. Ph.D. dissertation, University of Illinois at Urbana-Champaign, United States -- Illinois.

This study investigates the routine situated communicative practice within the weekly meetings of a life sciences laboratory. The key, constitutive discourse of "reporting" is examined as an activity in which participants jointly sustain the work community of the laboratory and manage their own work within this community. This study seeks to contribute to studies of small groups by focusing upon the multifunctionality and situated nature of the meeting interactions within this enduring "bona fide" group as participants undertake multiple goals associated with their own progress and with the overlapping contexts of the setting. It also seeks to contribute to investigations of institutional talk and activity by examining "reporting" as interaction with institutional and community consequences for members of the community.

This study takes a practice-oriented perspective to investigate the laboratory as a community of practice, focusing upon the "activity" of interaction as the overall unit of analysis. Ethnographic materials (involving observation, interviews, conversations, and activity logs) and discourse analysis techniques (involving audiotaping and transcriptions of meetings) were used to locate and record data within a university entomology laboratory over a two year period. Through triangulation of data, "reporting" is identified as a key discourse activity within the laboratory. As situated communicative practice within the weekly meetings, reporting is found to be compelled discourse through which interactants interactively manage one's ongoing goals and activity while temporally situating that activity within the broader stream of laboratory work. This study provides an example of how engagement in situated discursive

activity provides for the coordination of individual lines of progress within the ongoing work of a community.

This abstract report the findings of the authors observations of a CoP established in a research laboratory. There are few conclusions presented in the abstract, but since I am in the process of establishing a similar CoP in a research context I will be reading the full thesis

Leadership and Administration

Introduction

This section is a collection of studies that either investigated aspects of leadership and administration or are studies that could be applied in this context. The overriding theme is that both CoPs and legitimate peripheral participation are involved in the development of leaders and in how effective leaders function. The value of CoPs in this context has a large component of communication with the people that the leader is responsible for. The study involving the archivists (Abstract 1) is an example of how a leader can use a CoP to move forward an agenda while simultaneously obtaining community acceptance. Abstract 3 discusses how managers know what they know and, to a degree, this complements abstract 12 that discusses decision making. In addition, a CoP can be used to gain consensus or acceptance of a new technology. The study describing how the FBI used a CoP in encouraging acceptance of forensic DNA testing is an example.

A further idea that is raised is why people disregard direction and explores how a CoP can be used to investigate why. This could simply be a matter of convincing the group that this is the correct approach by providing more information or using enquiry to find out why they do not want to follow the direction, and in doing so perhaps uncovering flaws in the new system.

Two studies involved change management. This is an important component of leadership. The studies involved investigating how effective change management techniques had been and opens the door to new ways of involvement of, and communication with, the community affected by the change.

The study on how information technology personnel interact with both their clients and other experts was particularly interesting (Abstract 12). It demonstrates social interaction, finding out what the difficulties facing the clients in fact are, is an important part of success for this group. It is perhaps a more extreme example of a technique that has application in other areas, for example clinical practice and teaching.

Theses for Full Review

- 1 Davis, Susan Emily (2003) Organization and influence in professional standards development: The case of archival description. Ph.D. dissertation, The University of Wisconsin - Madison, United States -- Wisconsin.**
- 3 Kull, Michael David (2003) Stories of knowledge management: Exploring coherence in a community of practice. Ph.D. dissertation, The George Washington University, United States -- District of Columbia.**
- 7 Cullinan, Cristine Ann (2001) Experience, education, culture and context:**

A case study of the forces that shape department chair behavior. Ph.D. dissertation, University of Oregon, United States -- Oregon.

- 9 Petrie, Valerie Junieta (2001) A Ways-of-Giving Model for agents of change. M.Ad.Ed. dissertation, St. Francis Xavier University (Canada), Canada**
- 10 Signer, Jordana Kanee (2002) Leading change initiatives: Communication and bounded agency in a health care organization. Ph.D. dissertation, University of Southern California, United States -- California.**

Abstracts Reviewed

- 1 Davis, Susan Emily (2003) Organization and influence in professional standards development: The case of archival description. Ph.D. dissertation, The University of Wisconsin - Madison, United States -- Wisconsin.**

This study explores the development of the archival profession during the 1980s, a period that experienced rapid change and the adoption of descriptive standards. Specifically, the study seeks to examine leadership roles played by individuals acting independently, and on behalf of their employing institutions and professional associations. Description represents a fundamental archival function. It constitutes the way in which archivists connect resources and researchers and occurs in all repositories, regardless of size or sponsorship. Changes in descriptive standards dramatically affect the work of archivists in every institutional setting.

The analysis in this study focuses on three different units of social organization: the profession as a whole, the series of groups that undertook descriptive standards work, and the individuals who carried out these activities. The research design combines a case study that focuses on the organizations and institutions that engaged in descriptive standards development with a sociological analysis that concentrates on the individuals and examines patterns of relationships. The data comes from primary and secondary source records and semi-structured interviews with key individuals. In many respects, descriptive standards development and implementation constituted an innovation that dramatically changed the profile of archival work and followed the diffusion of innovation model described by Everett Rogers. Activity fell into three chronological periods in which the profession examined and redefined practices, codified knowledge, and developed a standards process. Individuals emerged as a major driving force, and key leaders formed a community of practice that interacted on levels beyond the mechanics of standards development and implementation. Certain factors were more important in establishing influence. Those who became involved in the early stages tended to remain

involved and were viewed by their peers as more influential. Demographic and institutional affiliations were also significant; the leadership cohort consisted of individuals who entered the profession in the 1970s and were affiliated with Research Libraries Group member institutions.

This abstract notionally describes a study of archivists and the rapidly changing world in which they have practiced for at least the last 10 years. The study has implications for the role of leaders in any profession or arena where the standards are applied. In some ways this study can apply to any organization. It is interesting that individuals were the driving force behind innovation and it was these individual leaders who established a community of practice. This reinforces the point that a CoP must have a champion who has the passion to foster the CoP's development. The diffusion of innovation model attributed to Rogers in the abstract sounds intriguing.

2 Derksen, Linda Anne (2003) Agency and structure in the history of DNA profiling: The stabilization and standardization of a new technology. Ph.D. dissertation, University of California, San Diego, United States -- California.

DNA profiling has been called the most important forensic innovation since the introduction of fingerprints in the early 19th century. Before DNA profiling became a stable form of knowledge, it went through many crises, including "The DNA Wars." Using concepts from the sociology of scientific knowledge, this dissertation contributes to a theory of agency and structure that shows how the dynamics of agency and structure interacted in the case of DNA profiling, to create new knowledge and new forms of social structure. Data were drawn from in-depth personal interviews, scientific publications, transcripts of key court cases and Congressional hearings, judges' decisions, FBI documents, two National Research Council (NRC) reports, and technical and lay press coverage of the controversies.

In the DNA Wars the country's most prestigious population geneticists mobilized their personal and institutional credibility to support or derail the new technology. In 1991 the NRC convened a committee of blue-ribbon representatives from the criminal justice system and academia to settle controversies surrounding the technology. Their recommendations met with widespread criticism, forcing the NRC to convene a second committee in 1994. While some groups were fighting bitterly over the procedural and computational aspects of DNA profiling, the FBI was quietly creating a community of practitioners, known as the Technical Working Group in DNA Methods (TWGDAM), who were instrumental in stabilizing, standardizing and disseminating DNA profiling procedures in North America. This analysis shows that stable knowledge is produced in successful communities of practice--the first NRC committee's proposed solution to the knowledge problem failed, partly because they could not constitute themselves as a community. It also reveals that closure to scientific

controversies is a complex process that can occur at different times for different groups. In this case "wars" raged in some social worlds (academia, the National Research Council), while order was quietly established in other arenas (Congress, the FBI, TWGDAM). The study also shows that we are misled if we believe that it is only scientists who produce and stabilize knowledge. Sound knowledge about DNA profiling was created from the activities of many individuals pursuing specific goals in disparate institutional contexts.

This particular abstract was difficult to easily fit into one of the somewhat arbitrary categories chosen for this study. I have placed it in the Leadership and Administration category because it provides an example of how the use of a CoP to deal with a difficult scientific and social problem is an example of strong leadership, in this case by the FBI. There are other examples that are currently topical where the establishment of a CoP, either openly, or by stealth as in this example may be helpful to reach societal consensus on the appropriate role. The example that immediately comes to mind is stem cell research. The role of reproductive technologies might also be addressed in this way.

3 Kull, Michael David (2003) Stories of knowledge management: Exploring coherence in a community of practice. Ph.D. dissertation, The George Washington University, United States -- District of Columbia.

The purpose of this case study is to explore the epistemological foundations of knowledge management (KM). The research seeks to provide insight into how members of a professional management community know what they know. Digital video interviews of twenty-eight elite participants comprise the data. This study explores knowledge management in a search for coherence through two modes of analysis. The first mode draws from Thomas Kuhn's conception of a disciplinary matrix and constructs a paradigmatic taxonomy for knowledge management. The second mode investigates KM as a community of practice and builds a narrative typology to organize the variety of cultural stories. Through semiotic analysis, thematic results are categorized from the interviews. The main themes in KM are derived and interpreted in both paradigmatic and narrative contexts. This study also develops a digital storytelling methodology as a research posture that offers greater transparency and credibility for qualitative studies. One claim of this study is that digital storytelling can reveal connotations of narrative that may aid scholars in their research, and provide practitioners with way to utilize knowledge media. The results of the study offer an approach for structuring themes and eliciting knowledge along two epistemologies. It is argued that a rich understanding of a management phenomenon is formed more coherently through the complementary approach presented. The contributions of this study help to build understanding in social learning, narrative theory, and paradigmatic inquiry. The main conclusions of this study are: (1) that

paradigms and communities of practice are analogous concepts; (2) that a management discipline is akin to a literary genre; and, (3) that thematic concepts in sociolinguistic units bear a "family resemblance" that may be lost through reductionist methods. The results of this study provide researchers and managers with several interesting directions of inquiry and application.

This abstract explores the techniques that managers use to know what they know. My sense from the abstract is that this would be a good thesis to read as it appears to present a review of how we function in a management role, based on the experiences of a number of managers. The abstract emphasizes the dual role of paradigm and narrative in gaining an understanding of this topic. I am not clear on the role of paradigm in this context and clearly this is a learning issue to be explored.

4 Venters, Cassy Dierking (2004) Facilitating knowledge transfer in organizations. Ed.D. dissertation, University of Missouri - Columbia, United States -- Missouri.

This study used qualitative methods to explore how individuals in one organization facilitate the transfer of knowledge. Ten individuals, eight business counselors and two business center directors were interviewed for the study. These individuals provided data about how they solved challenging problems, how they obtained the knowledge they needed to solve those problems, and what they did with new knowledge they obtained. Data were also obtained through observation of a staff meeting, a client database, and collection of documents from each business center. The findings showed that knowledge was primarily obtained through the work experience, past and current, of staff members. Positive relationships among staff in each center also contributed to obtaining knowledge because staff members relied on each other as information sources. And personal networks of contacts that each counselor developed through their past work experience and in the course of performing their job also contributed to obtaining knowledge. Limited data were available on how staff stored knowledge and the conclusion developed that there was limited storage of data or knowledge. The facilitators of knowledge transfer that emerged in this study developed into five general conclusions. Three of these related to communities-of-practice, positive relationships, socialization and collaboration among center staff. Additionally, it was shown that few organizational processes and routines were used to transfer knowledge and that managers could positively influence knowledge transfer practices among staff.

The abstract from this study provides little by way of details of its conclusions. Essentially, a social network analysis was conducted to determine how knowledge was shared in an un-specified business organization. The study concluded that the majority of

the knowledge sharing in the organization was a result of, presumably, informal CoPs. There appeared to be little or no involvement of technology for sharing of documents.

5 Zanetich, John Thomas (2003) Knowledge management in the public sector: A case study of the intergovernmental response to the West Nile virus epidemic in New York State. Ph.D. dissertation, State University of New York at Albany, United States -- New York.

This is a case study of knowledge management in a public sector organization formed to respond to an epidemic. This intergovernmental organization was spontaneously created by the NYSDOH to halt the spread of a mystery virus and immediately installed knowledge management into its infrastructure. The members of the intergovernmental organization were all members of the same community of practice. The intergovernmental organization met 60 times over a two-year period via telephone conferencing. The 7,177 interactions between members of this virtual organization during this time period were codified according to a set of operational definitions of knowledge management components. Interviews with 12 individual members of the intergovernmental organization were conducted to identify members perceptions of changes and differences in the organization's formality, organizational structure and knowledge management structure over a two-year period. Complementary data, consisting of codified artifacts of the intergovernmental organization were collected for this same time period and included in the analysis of differences between Year I and Year II in the knowledge management process and its relationship to organizational structure and the environment and the nature of the dynamic interrelationships among them. The results suggested reciprocal relationships between knowledge management and both organizational structure and the environment. The results were inconclusive on the dominance of any one of these elements over the other. The results suggested knowledge management, organizational structure and the environment be considered an interwoven set, with each element manifesting equal importance. Discussion of the results included adaptations of knowledge management to an increasingly formal organizational structure in an increasingly homogenous, concentrated, stable environment.

This study contributes to the literatures on micro- and macro-organizational environments' effect on knowledge management, the special knowledge management conditions present in communities of practice, and the contribution of knowledge management to the social capital of an organization. Implications for practitioners include the importance of identifying barriers and enablers of knowledge management. Limitations of the study result from the virtual nature of the organization and the lack of research methods capable of capturing phenomena like knowledge management.

The abstract of this thesis is largely a description of what was done without elaborating on the conclusions. The single most relevant conclusion appears to be that it is important to identify the barriers to knowledge exchange. Perhaps the full document is more forthcoming, but it would have been nice to see some recommendations as to how the barriers might be removed as the area of emerging zoonotic disease is becoming increasingly important and there is intense pressure on the public service to quickly and efficiently respond to outbreaks of new diseases. I have forwarded this abstract to a colleague who is involved with coordinating the response to new diseases in Ontario.

6 Bouillion, Lisa Marie (2002) Teachers' locally-mediated sensemaking of a curricular design for "real world" learning: Developing design principles to support mutual adaptation in the use of education innovations. Ph.D. dissertation, Northwestern University, United States -- Illinois.

This study explores the phenomenon of variation in how education reforms and designs are implemented within diverse communities. These variations are often unexpected, perplexing and frustrating to reform architects and design researchers. Understanding what contributes to this variation is a key challenge we must face in our efforts to design artifacts intended to support changes in practice for improved student learning. This study is based on a theory of implementation as reform transformation which assumes variation is a necessary and inevitable part of teachers' efforts to adapt reforms to fit within local contexts. This theory defines sensemaking and negotiation as integral parts of teachers' implementation practice, and characterizes successful implementation as a process of mutual adaptation, wherein change occurs in both local practice and design artifacts. The focus of this study is on making visible the rationale guiding teachers' adaptations of Reality Based Learning (RBL), a curricular design for bringing students, teachers and out-of-school communities together in mutually beneficial partnerships to solve real world problems. Based on the analysis of seven replicated case studies of RBL implementation, this study identifies the way in which aspects of local context influence what teachers notice and attend to in their practice, the interpretive frames they bring to bear in making sense of new designs for teaching and learning, and the way in which these influences shape different adaptations of the original, "idealized" design. The practice of adaptation in these cases is conceptualized as an interplay between the cultural entailments of the enactment communities and the RBL design--defined as embodied characteristics of communities of practice, such as history, identity, goals, norms of interaction and funds of knowledge. The findings of this study contribute to understanding the value of local expression and knowledge in teachers' adaptation of education reforms and innovations. These findings are used to inform the design of education innovations by identifying characteristics of the pattern of "mutual adaptation" and proposing design principles intended to support this practice in the future use and fitting of innovations such as

RBL in diverse communities.

Although this study was based in the teaching arena, it has much wider applications. It investigated why educational reforms are not uniformly implemented by the local teachers and administrators. It recognizes that local circumstances will influence the way in which the reforms are implemented, but the abstract does not clearly state if systemic conclusions can be drawn that may have more general application. Reading the full thesis would be required to determine the applicability of the results of this study.

7 Cullinan, Cristine Ann (2001) Experience, education, culture and context: A case study of the forces that shape department chair behavior. Ph.D. dissertation, University of Oregon, United States -- Oregon.

This case study explored forces that influenced the behavior of 21 department chairs from a medium-sized, publically funded research university who served for at least two years from 1995 through 2000. Using situated learning as a theoretical framework, primary forces examined included: (1) institutional context; (2) previous experiences and educational backgrounds; (3) business and academic cultural frameworks; and, (4) historical and immediate department contexts. This study found that levels of support experienced by chairs from both administration and academic colleagues were the most crucial factors in determining chair effectiveness. Chairs could be grouped as apprentices, journeymen or masters, in each of three areas: (1) providing leadership to their faculties; (2) supervising administrative staff; and, (3) negotiating with members of upper administration. Department faculty, administrative staff and upper administration members were also learning to work with the chair, and based on their previous experiences with the particular person, could also be characterized as being apprentices, journeymen or masters. This study found that depending on the level of expertise with which the chair was approaching a particular set of responsibilities, different kinds of support were needed. Apprentices needed clear and reliable feedback. In the absence of feedback, apprentices lacked a supportive learning environment and often became isolated from members of their communities of practice. Journeymen needed translators who could help them determine how best to use or adapt previous learnings to new situations. In the absence of translators, journeymen often failed to adapt to changing circumstances or to use available resources to further develop their practice. Masters needed well developed lines of communication with all groups in order to fine tune their skills in their new environments. Masters, who were more likely to take reasonable risks in changing practices and processes, depended on the continual maintenance of lines of communication with those affected, since changing practices caused all members to have to try on new behaviors. The results of this study argue for a reexamination of the role of chair as both a position and a vehicle for learning within communities of faculty, staff and administrators.

This study is particularly relevant to me because of my desire to change my career direction towards administration. The study describes the role of the university department chair in the context of situated learning and describes the importance of social networks in order to be effective. The study appears to have involved a large component of narrative in the data collection. This is a thesis that I will be reading in full.

8 Lewis, Lance Brian (2000) Learning to advise: Academic advisers and organizational communities of practice. Ph.D. dissertation, Michigan State University, United States -- Michigan.

Despite the growing body of research on academic advising, little is known about how academic advisers learn to perform their role. This study examined how advisers at one university learned their role, and whether or not they formed organizational communities of practice to facilitate that learning.

Twenty-one academic advisers, and assistant deans or directors of student affairs representing nine undergraduate colleges were interviewed. Documents pertaining to academic advising were reviewed. Following review of the initial interviews, additional interviews and participant observation were conducted within one undergraduate college.

The findings were analyzed by reviewing interview transcripts, field notes and documents to define the role of advisers, describe their learning, and to find patterns of interaction and learning that might indicate the presence of a community of practice. The results led to a definition of a general role for advisers, but did not indicate the presence of an institutional community of practice. However the results did indicate the presence of a community of practice within the individual college.

The role of advisers was found to encompass seven major categories--information resource/adviser, referral agent, administrator, career advising, affective/counselor, student advocate, and "other". Many advisers worked on special projects that were not necessarily related to their primary role as an adviser. Advisers learned their role primarily through three ways of learning: individualized reading and review, mentorship/apprenticeship, and social learning. There was evidence that a community of practice existed among academic advisers within the college where participant observation and additional interviews took place. The community of practice had a positive impact on academic advisers' learning and practice. Advisers developed a similar identity through their ongoing membership within this community of practice.

I have placed this particular abstract in the administration section because implementation of the findings of this thesis lie with the department chair or dean. The researcher investigated the role of graduate student advisors and more particularly, how the advisor learned the duties of that position. The study concludes that this learning occurs by individual study, a master-apprenticeship role and social learning. In my

college at the University of Guelph it is the apprenticeship model is the most prevalent. Communities of practice appear to be lacking in this context. While there may be a role for CoPs, my view is that the master-apprentice model is more important.

9 Petrie, Valerie Junieta (2001) A Ways-of-Giving Model for agents of change. M.Ad.Ed. dissertation, St. Francis Xavier University (Canada), Canada

This thesis is a reflexive inquiry that explores my identity as an agent of change, with particular attention to my own capacity to give within various communities of practice. I undertake an appreciative inquiry into my own practice of giving, by exploring four distinct landscapes of giving. I adapt appreciative inquiry--an organizational development form of action research--to generate the best examples of giving from my own approach to everyday living as an agent of change. These exemplars are used as data for discovery, understanding, and amplification in a planned change technique.

Two models of giving emerged from this study, reflecting the dual focus of adult education on personal and social goals. I create a unique Ways-of-Giving Model that presents four landscapes of giving in a quaternity, which is in harmony with determinants of giving, ethics of giving, and ways of giving. The Ways-of-Giving Model presents landscapes of giving shaped by the external environment. I also create a second model that presents attributes-of-giving. The attributes-of-giving model presents personal attributes that reflect an internal focus. The models are self-reflexive and emerge from my practice as an agent of change. Giving agency is presented as a theoretical construct that integrates personal, community, and moral agency and reconciles the seeming contradictions between personal and social agency. The models may serve social change agents as they reflect on, and foster, their own giving agency through reflexivity on past giving, empowering their choices in giving, and transforming their experience of giving. This thesis will be of significance to other adult educators who view themselves as agents of change, and especially those who struggle to imbue their social purpose with personal meaning.

This thesis is rather unique in that a change agent reviews her experiences working in communities of practice in the context of adult educational practice. The thesis largely seems to be one of personal practice and a qualitative review of the associated experiences. The “Ways of Giving” model is described, but the specifics of the results are not described. I have added this to the list of theses to be read in full as a large component of knowledge management involves designing and introduction of change, ideally followed by continuous monitoring of the effects of the change with subsequent review and if necessary further change.

10 Signer, Jordana Kanee (2002) Leading change initiatives: Communication and

**bounded agency in a health care organization. Ph.D. dissertation,
University of Southern California, United States -- California.**

Change is an increasingly important part of what leaders do, and communication is essential to both leadership and organizational change. However, few studies have examined the communication processes involved in leading change projects, especially at multiple organizational levels. A comparative case study was conducted in an American pediatric hospital to investigate how top managers and project leaders enacted resources for three change initiatives.

The analyses examined how four types of resources (information, knowledge, authority, and allocative resources) were enacted through four organizational systems or structures (formal organizational structure, informal networks, communication media, and information systems) throughout the projects' life cycles. Top managers mainly enacted authority and allocative resources through formal structures; project managers were much more concerned with collecting and disseminating information. Top managers tended to be more involved in the first few phases of the project, after which they generally "managed by exception" (Bass, 1990). Both groups of leaders often underestimated the need to communicate with various stakeholders, to gain or maintain support for the innovations.

All three projects introduced changes demanding new behaviors of communities of practice. Successful implementation involved establishing action cycles and accountability structures that institutionalized the new practices; episodic mechanisms alone could not maintain the changes. The project leaders faced multiple constraints. These included organization-wide fiscal austerity, poor information systems, cumbersome bureaucracy, and resistance from various stakeholders. Project leadership turnover and meeting attendance problems created communication difficulties. Also, some project leaders lacked authority (if not appointed by top management), or knowledge (e.g., project management skills), or both. The leaders' responses to these challenges ranged from skillful problem solving to damaging neglect.

Scholars have argued that resources are created, transformed, fixed and circulated through human interaction (Clegg, 1989; Giddens, 1984), but few have empirically investigated this phenomenon. The findings here suggest that resourceful leaders are entrepreneurial problem-solvers; they creatively enact resources that help them overcome constraints that would have impeded other leaders. The results also indicate the importance of understanding the role of meeting dynamics and conflict management in planned change. Directions for future research, and lessons for organizations are discussed.

This is an important thesis to review for anyone involved in change management. The opportunity to have observed change in action in a health care institution is a valuable

experience. The abstract indicates that some clear conclusions can be drawn from the study that are of practical importance. My previous experience with instruction in change management is that although some attention is paid to the social aspects of the subject, it is not enough. I look forward to reviewing the entire thesis as it has direct application to my work.

11 Skilton, Paul F. (1999) Participant learning in product and process development teams. Ph.D. dissertation, Arizona State University, United States -- Arizona.

This dissertation develops and tests theory about the relationship between team processes and the acquisition of integration skills in multi-disciplinary product and process development teams. The foundation of new product development capability is the acquisition of integration skills by individuals. Prior research has identified two approaches to understanding integration, one based on structured tools and methods, and the other, on organic social skills. In past research, these alternatives have largely been seen as substitutes. In the present study, the researcher views different learning outcomes and their antecedent processes as complementary. The antecedent processes investigated are the level of procedural control experienced by participants, the level of reciprocal interdependence between participants, the comprehensiveness of team decision processes and the frequency with which teams use formal tools and methods. The study extends adaptive structuration theory by interpreting the integrated project team as social (administrative) technology, and situated learning theory by developing the concepts of community of practice and legitimate participation for multi-disciplinary groups. Extending these theories enables the researcher to identify the conditions under which different sets of integration skills are more likely to be learned. The study tests this theory using a survey methodology drawing on three groups of working professionals engaged in development projects: 56 members of 15 product development teams from high tech industries; 66 participants in masters level project management and manufacturing strategy courses, and 12 graduates of a full time MBA program, working in high tech industries.

The results of the study partially support the model. The study succeeds in identifying and measuring different types of integration skill learning. No support to found for the hypotheses concerning procedural control. Partial support is found for hypothesized relationships between integration skill learning and the level of reciprocal interdependence, the comprehensiveness of decision processes and the frequency of tools use. This study makes its principal contribution by identifying the conditions under which alternative integration skills are acquired in product development projects. It generates a more encompassing view of learning processes in organizations, and provides insight into how managers can develop and sustain a knowledge based product development

capability. The study extends adaptive structuration theory by interpreting the project team as administrative technology, and situated learning theory by developing the concepts of community of practice for multi-disciplinary groups. Extending these theories enables the researcher to identify the conditions under which different sets of integration skills are more likely to be learned.

This is an interesting abstract that provides an account of an investigation of the learning process that occur in teams functioning in a product development context. Although not explicitly stated in the abstract, the study appears to be at least semi-quantitative rather than being descriptive. The conclusions indicate that there was no support for a learning model involving procedural control and only partial support for situated learning. While this study does not give practical recommendation that have direct application it clearly opens to door for further study into an area that has very practical applications.

12 Spitler, Valerie Kay (2001) Information technology use in the electronic age: An examination of knowledge work from the theoretical perspective of legitimate peripheral participation. Ph.D. dissertation, New York University, Graduate School of Business Administration, United States -- New York.

Knowledge workers represent a large and growing portion of the work force of advanced economies (Porat 1998; Frenkel et al. 1999; Drucker 1995, 1993). Coupled with the expansion in knowledge work is a growth in the use of information technologies (IT's) and increased complexity of the IT environment (Burton-Jones 1999).

In spite of the importance of using IT for knowledge work, few studies in the information systems (IS) literature specifically address this area (Schultze 2000, Orlikowski 1993, 1996; George, Iacono and Kling 1995). Many studies of IT use attempt to generalize to all types of workers and across different information technologies (DeLone and McLean 1992). Additionally, studies of IT use focus on initial acceptance of information technologies (Davis 1989, Goodhue and Thompson 1995) rather than on on-going use (Cooper and Zmud 1990, Agarwal 2000).

In an effort to understand on-going information technology use by knowledge workers, I undertook an interpretive case study of one group of knowledge workers, strategic management consultants. I asked how this group of workers learned to use information technologies for their work, and I applied the situated learning theory, legitimate peripheral participation (Lave and Wenger 1991), as a theoretical lens.

I found that junior-level consultants engage in a wide variety of tasks, which fall into eight categories, and that they use many different IT's for these tasks. I also found that consultants rely on several mechanisms for learning to use IT for their work, but that relying on others in their communities of practice was a key mechanism. Within their main community they relied on 'recognized' and 'local' experts to assist them in using IT

for their work. Contrary to expectations, these experts were not members of the IS department; nor were they senior members of the organization. Additionally, I extended Lave and Wenger's notion of transparency in order to develop the Transparency Model of IT Use.

This research contributes to the literature on knowledge work, information technology use, and work tasks, and is expected to have implications for practitioners interested in training and development of knowledge workers and in implementations of information systems.

This abstract has application in an administrative sense in that it investigates how information technology personnel learn to use various pieces of software. Based on the studies conclusions, there are components of legitimate peripheral participation involved in their activities. The administrative aspect of this study is the recognition of what information technology needs by way of resources in order to provide the service that is required by their clients. It is quite clearly more than just the ability to contact other experts in their own field, the study suggests that their CoP will include user rather than experts. This conclusion probably has much broader application, but its importance is in the recognition that information technology is only a component of an overall knowledge management strategy.

13 Aakhus, Mark Alan (1997) The communication logics of computer-supported facilitative interventions: A study of the community of practice and social technologies surrounding the use of group decision support systems in process facilitation. Ph.D. dissertation, The University of Arizona, United States -- Arizona.

Computer supported facilitation is a form of third party intervention that uses advanced information technology to deliver non-authoritative intervention on organizational decision making. The goal of this type of intervention is to create communication events where decision making and decision outcomes are collaboratively produced by those who have a stake in the decision. The facilitator's role is to assure decision making progress without taking sides or rendering a final decision. The obligations of facilitation form competing injunctions for practicing facilitation. Facilitative intervention must be performed so that it influences decision activity without influencing decision outcomes, facilitators must participate in decision making without becoming a party to the decision, and facilitators must enforce decision procedures without coercing participant acceptance of the procedures. The evolution of the field is marked by innovations in practice and role definitions that seek more effective means to reconcile the competing demands of the role and the changing circumstances of the intervention context. Computer supported facilitation is a technologically advanced form of intervention that combine skills of facilitators with the capacities of collaborative computing technology to more efficiently and effectively deliver decisions for organizations facing a choice. The facilitator designs and carries out

interventions by using group decision support systems that enable anonymous participation, simultaneous communication of ideas, geographic and chronological distribution of participation, and the electronic storage of contributions. This investigation finds that while technical advances help facilitators overcome the numerous barriers to decision making communication, the advances in technique and technology are prescriptions for decision making communication built on inadequate descriptive assumptions about the nature of communication. The community of facilitation practice and its technologies operate on the dubious assumption that communication process and content are in fact distinct. The community of practice, however, is caught up in preserving this distinction as its solution to the paradoxes of doing non-authoritative intervention. The dissertation demonstrates this state of affairs by showing the set of premises for facilitative action embodied in the process management view of the practice, the methods of transparency work which uphold intervention neutrality, and the way the community treats an innovation on practice.

This is an interesting study investigating a novel approach to decision making. Unfortunately, the implication of the study is that the technique does not represent significant progress, but rather finds problems that need to be addressed in future studies in a very important area. Decision making processes are an intriguing subset of knowledge management. This study comments on the difficulties associated with decision making with incomplete information. This subject itself has been the focus of other studies, for example those of [The decision book](#) . It is a field that is ripe for further study.

14 Epp, Michael John (1997) The implications of direct billing for medical services. M.B.A. dissertation, Simon Fraser University (Canada), Canada.

Between September 1992 and July 1993, 81 of British Columbia's approximately 7,000 practising physicians "opted-out" of the Medical Services Plan (MSP) and began direct billing their patients.

This study analyzes the utilization patterns for patients of 73 opted-out BC physicians and their "matched pairs" (based upon specialty, community of practice, and previous billings). Patients' utilization patterns are analyzed from one year prior to one year following the date of opting-out. Physicians' responses are measured for both general practitioners and specialists.

The results of this study show that patient demand is negatively impacted by direct billing. However, this reduction does not occur uniformly. Opted-out general practitioners lose female patients. Opted-out specialists lose proportionately more low-income than high-income patients. It appears that, in response to direct billing, high-income patients switch to opted-in specialists. In contrast, low-income patients appear to delay seeking specialist care.

The results of this study suggest that direct billing physicians respond to reduced caseloads by "inducing" demand from remaining patients.
(Abstract shortened by UMI.)

This interesting abstract explores the impact of physicians electing to opt out of the provincial health care plan and direct bill their patients on the billings of physicians and physician selection by patients. The study is largely one of data collection, and while collection of data of this nature is important in Knowledge Management in general, it is not clear from the abstract how this data would be used in the future in a knowledge management context.

Knowledge Management Tools and Methodologies

Introduction

The abstracts in this section largely explore the characteristics that make CoPs effective and expand on other techniques that have a role to play in knowledge management. In general, they studies provide evidence for general conclusions that have been made in terms of the important characteristics of functional Cops. Study 14 specifically listed six characteristics that are important for success of a CoP. Study 12 came to the conclusion are that sense-making is one of, if not the most significant, success factors, and also that the time span of the CoP is important. This last mentioned characteristic is probably related to the development of mutual trust which is one of the techniques for success listed in abstract 14. Narrative also emerged as a technique that was valuable in reaching a knowledge management goal.

Other important conclusions that can be drawn from the abstracts include the importance of people over technology, without the social component a knowledge management initiative will fail.

An interesting additional conclusion that can certainly be applied to myself is that experts will use a CoP for sharing of their central core of knowledge but when they are at the boundary of their expertise they will engage in legitimate peripheral participation to expand their knowledge.

Theses for full Review

- 1 Cambridge, Darren Robert (2003) *Techne in action online: Rhetoric and the WebCenter*. Ph.D. dissertation, The University of Texas at Austin, United States -- Texas.**
- 16 Sparks, Beverley Victoria (2003) *Using oral history collection for collaborative knowledge construction: Developing a community of practice through distributed learning*. M.A. dissertation, Royal Roads University (Canada), Canada.**

Abstracts Reviewed

- 1 Cambridge, Darren Robert (2003) *Techne in action online: Rhetoric and the WebCenter*. Ph.D. dissertation, The University of Texas at Austin, United States -- Texas.**

The study examines the application of rhetorical theory to the design of Web-based online community systems intended to promote the public good. It describes the rhetorically-informed process used to design an online

community system, the American Association for Higher Education Carnegie Teaching Academy Campus Program WebCenter. Drawing on contemporary readings and classical rhetorical theory and complexity theory, Chapter 1 examines the limitations of existing software engineering methodologies and describes rhetoric as a theoretical, practical and productive architectonic art which is distributed within a rhetorical ecology and can be deployed to encourage invention and judgment. Chapter 2 articulates the rhetorical ecology into which the WebCenter was designed to intervene, tracing the evolution of the "scholarship of teaching and learning" and examining the institutions, groups, and technological environments involved in the discourse around this term using concepts from publics theory and organizational learning theory. Chapter 3 explains the design of the WebCenter as a rhetorical forum, making use of Star's concepts of infrastructure and boundary objects, and introduces elements of the resulting design. Chapter 4 explores the use of artificial intelligence systems within the WebCenter as heuristic devices for invention and judgment by drawing on studies of scholarly communication and Burke's rhetorical writings. Chapter compares the expectations charted throughout the design process with the observed use of the WebCenter as implemented and suggests improvements to the existing system based on the results.

This abstract alludes to, but does not provide details of a technique or techniques that evaluates the use of rhetoric as a tool for developing an online CoP. My sense is that in this context rhetoric is a synonym for narrative. I have selected this thesis as one to be reviewed in the future as it has implications for how the scholarship of teaching could be developed. Teaching scholarship is much talked about in my institution, but it is extremely difficult to measure it, other than counting the number of publications which is only a small part of the scholarship of teaching. The use of narrative to discover what works well in teaching is an approach that I had not previously considered, although, as with all good ideas, they seem so obvious in retrospect.

2 Carlson, Nancy M. (2003) Community of practice: A path to strategic learning. Ph.D. dissertation, University of Idaho, United States -- Idaho.

To explore the concept of community of practice, the research initially concentrates on a strategic business process in a research and applied engineering laboratory discovering essential communication tools and processes needed to cultivate a high functioning cross-disciplinary team engaged in proposal preparation. Qualitative research in the human ecology of the proposal process blends topic-oriented ethnography and grounded theory and includes an innovative addition to qualitative interviewing, called meta-inquiry. Meta-inquiry uses an initial interview protocol with a homogeneous pool of informants to enhance the researcher's sensitivity to the unique cultures involved in the proposal process before developing a formal interview protocol.

In this study the preanalysis process uses data from editors, graphic

artists, text processors, and production coordinators to assess, modify, enhance, and focus the formal interview protocol with scientists, engineers, and technical managers--the heterogeneous informants. Thus this human ecology-based interview protocol values homogeneous and heterogeneous informant data and acquires data from which concepts, categories, properties, and both substantive and formal theory emerges. The research discovers the five essential processes of owning, visioning, reviewing, producing, and contributing for strategic learning to occur in a proposal community of practice. The apprenticeship, developmental, and nurturing perspectives of adult learning provide the proposal community of practice with cohesion, interdependence, and caring, while core and boundary practices provide insight into the tacit and explicit dimensions of the proposal process. By making these dimensions explicit, the necessary competencies, absorptive capacity, and capabilities needed for strategic learning are discovered.

Substantive theory emerges and provides insight into the ability of the proposal community of practice to evolve, flourish, and adapt to the strategic advantage of the laboratory. The substantive theory explores the dimensions of owning, visioning, reviewing, producing, and contributing and their interrelationship to community learning dynamics. Through dialogue, creative tension, and imagination, the proposal community of practice focuses on actionable goals linked by proactively participating in practice, creating possibilities, evaluating and enhancing potential, producing a valued product, and confirming strategic value. Lastly, a formal theory emerges linking competency-capacity-capability, cohesion, interdependence, and caring as essential attributes of strategic learning communities.

This abstract provides a succinct overview of all of the concepts of a successful community of practice. It is unfortunate that the abstract does not describe how the author came to the conclusions stated. Presumably, as a PhD thesis, it was much more than a literature review.

3 Evans, Michael A. (2003) Knowledge and work in context: A case of troubleshooting a complex system across ship and shore. Ph.D. dissertation, Indiana University, United States – Indiana

The implications of knowledge management present two key challenges to human performance technology. In short, the issues are these: (1) how to conceptualize knowledge and work distributed across organizational boundaries for purposes of analysis; and (2) how to target one or more levels of organization for performance intervention. In fact, what may be required in light of this dilemma is a focused reassessment of current theory and practice. Accordingly, to address the first issue a position is developed that proposes theories from which human performance technology conventionally draws, primarily behavioral psychology and cognitive

information processing, are myopic in perspective. From the standpoint of these theories, knowledge is oft-conceptualized as an object, something which can be codified and transferred to enhance performance and learning. Continuing a line of thought advanced by like-minded scholars, I propose that knowledge might better be conceptualized as a process, emphasizing participation, activity, and meaning-making. Three alternative perspectives amendable to this view, communities of practice, activity theory, and institutional theory, are recruited to conduct this measured reconceptualization. Concerning the second issue, the assertion is that interventions tend to gravitate toward support of the individual absent organizational context. By contrast, the position I support maintains that attention to social and cultural features of organization is critical for any intervention proposed to improve performance. Consequently, to demonstrate how these challenges may be met, a case study portraying the distributed nature of knowledge and work among co-present and "virtual" teams is presented. The depiction of these teams, comprised of military and civilian technicians troubleshooting complex systems aboard U.S. Navy ships, is then analyzed and explained from the three alternative perspectives. To conclude, insights gained from the case study examination are used to inform the development of knowledge management strategies for intervention. In line with the direction of this study, solutions are formulated to account for social and cultural features of organization, i.e., context. Thus, the objective of this dissertation is to reveal two salient challenges to HPT and then demonstrate how they might be dealt with in theory and practice.

This abstract describes a case study apparently involving the flow of knowledge within the US Navy. It presents two key premises. The first is that knowledge transfer is a process involving participation, activity and meaning making. The second, which is rather less well described in the abstract is a process of intervention to improve knowledge transfer. Given that the search term used that collected this abstract was community of practice it seems reasonable to assume, based on this fact, and the description of the case, a community of practice was developed as a means of identify potential interventions to improve the knowledge flow.

4 Flynn, Theresa M. (2004) Cognitive engagement in online discourse: A phenomenological study of knowledge construction in asynchronous dialogic communities of practice. Ed.D. dissertation, Pepperdine University, United States -- California.

As online learning continues to gain popularity and acceptance in higher education, researchers are turning their attention to the search for evidence of learning, and in doing so, they are finding the transcripts of asynchronous computer conferences to be rich sources of data. The analysis of these data, however, becomes problematic due to the lack of appropriate tools for studying asynchronous discourse.

This is a study of asynchronous online learning in the context of a professional, online master's program for teachers. 4 questions guided this study: What kinds of discourse interactions do learners engage in when participating in asynchronous online dialogue? Which of these discourse interactions, if any, are associated with student knowledge construction? What are the indicators of these interactions? Is it possible to distinguish reliably among kinds of discourse interactions associated with student learning?

To answer these questions, this researcher analyzed four conversation threads generated in the Online Master of Arts in Educational Technology (OMAET) program at Pepperdine University's Graduate School of Education and Psychology.

2 original rubrics were created to analyze (a) the intended audience and (b) the discourse function of these asynchronous messages. Open-ended interviews were conducted with 8 of the 23 members of the class to better understand the context of the messages. Despite achieving strong interrater reliability, the coders of the newsgroup messages were unable to discern subtle indicators of Discourse Function within the Argumentation/Disagreement category.

From this study, the following conclusions were drawn: (a) The accurate coding of conversation threads requires that messages be considered as connected parts of a larger narrative rather than as discrete units of meaning. (b) The practice of dialogic writing within Asynchronous Communities of Practice helps students to learn by allowing them to clarify their thoughts and test ideas, although tangible evidence of learning may not be present in the written discourse. Asynchronous transcripts cannot capture the more elusive social elements of online learning such as "back rooming." (d) Storytelling figured prominently in the academic threads and more research is needed on the relationship between storytelling and learning in online contexts.

The topic chosen in this study is challenging, to unravel the social aspects of learning in asynchronous discourse. The study concludes that the methodology needs more refinement to extract the hidden mechanistic information that the study sought. The preliminary observations are that asynchronous discourse allows clarification of thoughts and narrative is a common component of the discourse.

5 Wright, Kirby Gordon (2003) Exploring the learning through work processes of expert workers. Ph.D. dissertation, University of Alberta (Canada), Canada.

This study examined the learning through work processes of expert workers. A descriptive case study of expert workers involved in a small software development business formed the basis for the findings. Data gathering activities involved formal and informal interviews and extended observations. Analysis processes, based on a social constructivist

perspective, included the involvement of participants to interpret the findings and construct patterns and themes. The findings are presented as a series of four articles.

Building on socio-cognitive (Billett, 2001) and social constructivist (Brown and Duguid, 1991; Lave and Wenger, 1991) perspectives, the first article presents an emergent model of learning through work for expert workers. The findings reveal that experts learn by solving routine and novel problems and through processes such as prototyping. Routine problems were often solved individually as experts identified problem patterns and applied their expertise. Solving novel problems involved collaboration within internal communities of practice to engage in systematic problem definition, analysis and risk assessment processes. Experts sought additional information through the Internet and external networks. The second article examined social capital as a factor in supporting learning through work. Based on a conceptual model introduced by Nahapiet and Ghoshal (1998), the findings suggest that workers thrive in workplaces that feature strong cohesion and trust. Social capital facilitated the creation of internal communities of practice and the development of strong external networks.

The third article explored how prototyping processes supported learning through work. Experts used prototyping as a way to explicate complex ideas and concepts and participate in collaborative inquiry leading to discovery-based learning. Prototyping activities served as a means to systematically identify and explore novel problems.

The final paper examined how learning practice differs in and out of one's domain of expertise. As experts faced problems outside their scope of practice they sought to expand their networks in search of alternative sources of information and relied on their internal communities of practice as a means to work through issues and problems--engaging in a form of community-wide legitimate peripheral participation.

This study explores how experts learn during the course of their normal work. It found that CoPs, strongly based on trust, are an important component. It also notes that when workers are at the boundary of their expertise they will engage in legitimate peripheral participation to expand their knowledge.

6 Zawislan, Deborah Gries (2004) Connected learning: Theory in action. Ph.D. dissertation, Cleveland State University, United States -- Ohio.

An emerging theoretical framework for connected learning offers a system for examining one's approach to learning with--as opposed to learning from--others in the context of performing work or striving to achieve common goals. Connected learning is operationally defined as the learning that occurs within individuals as they intentionally come together in the context of professional communities of practice to collectively examine their work; to share in decision-making or problem

solving tasks; or to develop and implement shared goals and visions. It is suggested that connected learning occurs in environments in which individuals openly and honestly examine their individual and collective practices, values, and beliefs. This alternative format dissertation is presented in three sections. Section one is an ethnographic study of a school as learning organization and provides the background and context for the emerging theory of connected learning. Using constructivist grounded theory, section two presents an emerging theoretical framework of connected learning. Section three uses developmental action inquiry to present a narrative of the dissertation process.

This study essentially is a descriptive study of a CoP in the context of group learning in a school context. It supports the concept that learning with the group rather than learning from the teacher is more effective.

7 Zhang, Wei (2003) Knowledge adoption in online communities of practice. D.B.A. dissertation, Boston University, United States -- Massachusetts.

Although researchers and practitioners have recognized that online Communities of Practice (COPs) can be valuable tools for knowledge management, there is little quantitative research about this relatively new phenomenon. This dissertation helps fill the gap by investigating how individual members of text-based, asynchronous online COPs adopt knowledge contributed by others for their own problem solving.

For this purpose, this dissertation methodologically utilizes dual-process theories of information processing. It first verifies the appropriateness of the theories by replicating previous research in the new domain. Then, the behaviors and effects of factors that are not previously researched in this way, yet especially pertain to online COPs, are investigated. It is hypothesized that genre conformity and information consistency operate as two heuristic cues in the knowledge adoption in online COPs. It is also hypothesized that focused search and the presence of disconfirming information increase elaboration likelihood during dual-process knowledge adoption. These hypotheses were tested and partially supported with survey data collected from members of two online COPs with different characteristics.

This dissertation contributes to both IS research and the dual-process theories. Contrary to the cue-filtering paradigm of previous media research, it expands the computer-mediated communication (CMC) literature by identifying additional cues that are utilized for CMC-based knowledge adoption. It invokes the notion that the CMC context plays a dynamic role in ongoing knowledge adoption processes, both through elaboration likelihood and through interactions between the dual processes. Moreover, it advances the situated view of knowledge adoption by demonstrating that how members search for information and how current information compares to prior knowledge matter in online COPs. Focusing on the pull technology of

online COPS, it offers another theoretical link between CMC technologies and knowledge management.

Practically, this dissertation provides us with new insights into the utilization of online COPs for improving organizational knowledge management. It also suggests new directions for designing software systems to better support knowledge sharing in online COPs.

This abstract indicates that this is a quantitative study of how an online CoP facilitates knowledge management. It indicates that focused searching and disconfirming information are important components of a successful on line CoP. Additionally, it provides further evidence that online CoPs are an effective method of knowledge sharing.

8 Aldridge, John W., Jr. (2002) A multidimensional model for building knowledge assets: Applying socio-technical systems to online action research. Ph.D. dissertation, Fielding Graduate Institute, United States California.

This research contributes to the understanding of how organizational members cocreate and apply knowledge in their communities of practice utilizing an online action research model for building knowledge assets. This study builds on the literature of knowledge management and knowledge assets whose origins may be traced to ARPNET and the original "open system," peer-to-peer process first conceived in the late 1960s through a partnership between UCLA, SRI, UCSB and the University of Utah. This study uses the narrative as its research protocol. The data that are the basis of this study are observations of "anonymous" online message board communications and subjective analysis of how organizational members practice knowledge management, that is, how managers plan, enact, interpret, and evaluate their own actions as organizational learners using an online action-oriented research process. Although the data addressing these praxis-oriented epistemological accomplishments are revealed through the narrative research process, the framework for observing and codifying this knowledge creation work is derived from what the researcher calls, transform-action research . Transform-action is an integral and multidimensional action-oriented research methodology combining action science and action learning with online surveys and message board conferences. The message board forums revealed various critical issues and operational discourse but, for the most part, yielded no new knowledge, few new ideas for innovation, or anything significant other than the kind of conversational patterns that commonly take place in informal organizational environments. (For the purposes of this study, new knowledge is defined as that which occurs when learning becomes situated in a moment of action requiring a novel response, where work groups think together, organizing innovative work patterns, and cocreating opportunities for change). The message boards did provide a useful communications platform for reflective learning and operational discourse,

though not strategic discourse. Although the online transform-action research templates helped to establish the context for organizational change, i.e., strategic discourse and collaborative learning, the knowledge workers did not fully utilize the data resources for decision-making. This would suggest that the challenge for knowledge researchers is to avoid the temptation of placing the locus of control on the technology and to place it on those individuals who are the focus of the change intervention. This would develop effective leadership and management skills sufficient to guide knowledge workers toward becoming knowledge researchers.

This study investigates how people function in an online CoP. It concludes that it is important to place emphasis on the people as the source of knowledge rather than the technology. It comments that the CoP investigated was less helpful in discussions of strategic direction, but more helpful for reflective learning and for operational issues. The implication may be that for development of strategy initial face to face meetings are more important.

9 Baek, Eun-Ok (2002) A study of dynamic design dualities in a Web-supported community of practice for teachers. Ph.D. dissertation, Indiana University, United States -- Indiana.

The purpose of this study was to explore, through a qualitative case study, the complex and dynamic nature of design dualities that emerged when teachers and developers interacted to co-develop a Web-supported teachers' community of practice. The case selected was the Inquiry Learning Forum (ILF), which was developed by the Center for Research on Learning and Technology to support science and mathematics teachers' inquiry-based pedagogies. The theoretical framework was derived from online teachers' professional development literature and the concept of a "community of practice" (CoP).

The case study was conducted from May of 2001 to July of 2002. The data were collected from five sources of evidence, to consider both online and offline interactions of teachers and designers: (1) interviews with nine teachers, and nine ILF designers; (2) online participant observation of teacher interactions; (3) documentation, including meeting notes, design progress reports for the web site, and formal studies or evaluations of the site; (4) observation of the design and the research meetings; and (5) focus group interviews with the teachers and the ILF designers.

The ILF evolved through four developmental phases: early aspiring, refocusing, restructuring, and concluding. During the phases, five design dualities emerged, which were subsequently developed using grounded theory: (1) negotiating the purpose of the community (integrating educational reform-supporting teachers' daily activities); (2) dealing with balance in the design approach (design for teachers-design with teachers); (3) creating social contingencies to facilitate online

interactions (public, open-private with limited membership); (4) ensuring usability of the web site (simple-complex); and (5) making decisions about how to bridge small groups within the site, and the site itself with other professional development institutes (inside-outside). This study shows that designing a place to nurture the birth and growth of a Web-supported community is a complex, dynamic process that involves not only technical preparation, but also a socio-cultural understanding of teachers' online and offline work lives.

This study explores how experts learn during the course of their normal work. It found that CoPs, strongly based on trust are an important component. It also notes that when workers are at the boundary of their expertise they will engage in legitimate peripheral participation to expand their knowledge.

10 Barreto, Charmaine (2003) The motivators and effects of formalized knowledge-sharing between employees through knowledge management initiatives: A multi-case study approach. Ph.D. dissertation, Syracuse University, United States -- New York.

In the past decade, a business strategy called knowledge management (KM) has evolved to systematically acquire, store, access, share, maintain, and reuse knowledge from different sources. Within this effort has emerged an attempt to formalize the behavior of knowledge sharing. This study investigated the phenomenon of formalized knowledge sharing within a KM effort. A formalized setting is one where the knowledge sharing does not occur through serendipity. Rather an employee seeking information utilizes a formal KM tool or process such as a map of internal expertise or an organizationally supported community of practice, to engage in knowledge sharing.

The purpose of this study was two-fold. First, it sought to identify what motivates employees to participate in formalized knowledge sharing. Second, it sought to identify and understand the effects of formalized knowledge sharing on the sharer. In particular, the study investigated whether the antecedents of organizational citizenship behavior (Organ, 1988) served as motivators for formalized knowledge sharing behaviors. It also employed research from the areas of impression management and knowledge sharing culture to help understand the sharer's motivations. Guided by social learning theory (Bandura, 1977), the study explored sharers' perceptions of personal and environmental effects that they attribute to the formalized knowledge sharing behavior.

Methodologically, the study used a multi-site, case study approach. Data were elicited via self-administered questionnaires, and in-depth, semi-structured interviews at two large organizations. The study's findings show multiple motivators engaged respondents at both organizations to participate and share in formalized knowledge settings. On the one hand, the role of fundamental individual goals in the display

and quality of formalized knowledge sharing was identified via the interviews. On the other hand, the role of social exchange and personal/organizational norms in the display of formalized knowledge sharing was identified via the surveys. The study's findings also show respondents perceived multiple effects when they partake in formalized knowledge-sharing activities.

The study made contributions to several existing theories and proposed a two-factor theory of motivation for formalized knowledge sharing. The study's findings also had several pragmatic implications for the sharers, developers and designers of KM initiatives, and managers and leaders.

The concept of this study is excellent, but unfortunately does not elaborate on the results in the abstract. It evaluates the factors that motivated employees to make use of formal structures for knowledge management. It is a multi site study, which adds to the strength of the conclusions. Reading the full thesis to determine what the author describes as “pragmatic implications for shares, developers and designers of such structures is important for anyone involved in large scale file sharing systems”.

11 Glazer, Evan Michael (2003) Using collaborative apprenticeship to examine factors and reciprocal interactions that affect a community of teachers' integration of technology. Ph.D. dissertation, University of Georgia, United States -- Georgia.

This study examined the factors and interactions that support teachers' technology integration efforts using a Collaborative Apprenticeship framework. Teachers with experienced technology use served as mentors of technology applications aimed at improving instruction. Technology was gradually infused through the curriculum as teachers learned to design technology-rich lessons from their technology-savvy peers through modeling, collaboration, and coaching. Results suggest that shared planning time, shared curriculum, connection to an individual, expertise, physical proximity, and comfort level influenced interactions across the community of practice. Posing and responding to task-based questions, giving and seeking advice, and sharing ideas comprised more than 70 percent of the observed interactions between teachers. However, the nature of interactions changed as teachers gradually assumed more responsibility in designing technology-enhanced lessons. Teacher-leaders initially modeled exemplar applications of technology-enhanced lessons and gave advice on using them in classrooms; then, the community of teachers brainstormed new ideas in collaborative efforts, and teacher-leaders motivated peers to develop original lessons independently. Implications for collaborative apprenticeships and learning in professional environments are provided.

This study also examined the factors and interactions that support teachers' mentoring and development as teacher-leaders supported peer efforts to integrate technology. Results indicate that teachers who were

more successful in designing technology-enhanced lessons tended to interact differently from their peers. Rapidly developing teachers assumed more ownership in their learning and consequently interacted more frequently to obtain support and advance their development. Further, when their primary motivation was to develop strategies to improve student learning, successful teachers overcame learning obstacles. Peer mentoring techniques also influenced the interactions-and quality of teacher growth in the community. In general, mentors resisted interactions perceived as potentially jeopardizing collegial and interpersonal relationships, even when peers did not demonstrate growth in their learning.

This study investigates how a CoP allowed a group of teachers to rapidly gain confidence in new technology as it applied to their teaching. Although the specific example involved teachers, the results of the study clearly have broad application, confirming the benefit of CoPs in the introduction of new technology to a group of workers.

12 Gorelick, Carol Kleeman (2000) Toward an understanding of organizational learning and collaborative technology: A case study of structuration and sensemaking in a virtual project team. Ed.D. dissertation, The George Washington University, United States -- District of Columbia

In recent years, an increasing amount of research and literature has focused on the "knowledge-based economy", "organizational learning", virtual teams and computer-supported cooperative work. Yet there is a dearth of empirical field research that crosses disciplines. This descriptive case study uses social action theory to explore the factors that contribute to a virtual project team and an organization's learning. It presents a two-dimensional (structural and sensemaking) approach to organizational learning in a virtual project team and reviews the role of collaborative technology in the process. The structural dimension focuses on organizational learning mechanisms--information technology, roles, norms, leadership, rewards and recognition, and education and development that contribute to a team's performance and learning. The sensemaking dimension focuses on shared values, mission, objectives, goals, language, schema and scripts, without which the structuring mechanisms are not likely to be effective.

The major study conclusions are: (1) The dynamic interaction (dualities) among the rational technical processes for movement of information throughout the organization (structural factors) and human values and emotions (sensemaking factors) plays a central role in effective organizational learning at the team and organizational levels. Strong sensemaking factors overcame weak or absent structuring factors. (2) A successful virtual project team has both learning and performing components and uses collaborative technology. While collaborative technology is an enabler, alone it does not produce organizational learning. (3) The study team contributed to organizational learning

through knowledge management initiatives such as creating a knowledge management framework that included specific tools and techniques. (4) For a virtual team, time span (both life of the team and project duration) is a significant factor in performance and learning.

Fieldwork in this qualitative case study using naturalist inquiry techniques extended over a period of fourteen months. Eleven members of British Petroleum's Knowledge Management Team and ten members of a Knowledge Management Community of Practice participated directly in the study. Data collection included background forms, individual interviews, observation at several off-site meetings, a site visit to a refinery, document analysis and company and team Websites reviews. Principal descriptors were identified for each variable and a thematic analysis was used to generate the study findings and conclusions.

This is a study that looks at some of the reasons why CoPs are effective, and because of this, it has significant merit. The major conclusions are that sense-making is one of, if not the most significant success factors, and that the time span of the CoP is important. This last mentioned characteristic is probably related to the development of mutual trust.

13 Gray, Elizabeth Louise (2002) Informal learning in an online community of practice. Ed.D. dissertation, University of Alberta (Canada), Canada.

The purpose of this study was to assess the extent to which participants' experiences in an informal online environment constituted a community of practice. The study sought to understand the motivations and deterrents to participation, participants' conceptualizations of their online experience, and the role the moderator played in this online environment.

This interpretive study utilized a multi-method approach based upon practices and assumptions of qualitative inquiry. Participants included 43 coordinators of Alberta Community Adult Learning Councils and the manager of the Community Programs Branch of Alberta Learning, all of whom participated in a moderated online community for a one year period from May, 2000 to April, 2001. Data collection sources included a review of online postings, a survey of participants, and individual interviews. The data were analyzed using an inductive thematic approach.

The research findings indicate that participation in the online environment did constitute a community of practice that facilitated meaningful informal learning situated within a distributed work context. Newcomers were oriented into the skills and culture of the practice, and experienced practitioners gained new insights into their own professional identities and the meaning of their work. Telling of stories helped to develop not only identity as individual practitioners, but also served to continually reconstruct the identity of the collective community of coordinators. Even peripheral "lurking," where participants read but did not actively contribute to online discussions, was a legitimate form of

learning and participation. Motivations to participate included the opportunity to learn new skills and work practices, a means of social and professional connection to colleagues, and an opportunity to decrease the isolation that was inherent in the job function and geographical location. Deterrents to participation included a lack of time, technical limitations of slow Internet connections and older computers, and individual perceptions of limited experiences or information to contribute. Participants conceptualized the online environment as an integrated space that represented a tool for work, a place for learning, and a social community. The findings suggest that an online moderator was helpful in sustaining the online community over an extended period of time and enhancing the learning function.

This study investigated an online community of practice involving a geographically dispersed group of people. It confirms that this medium can be effective. It emphasizes the importance of a moderator and confirms that “lurkers” can gain substantially from the CoP.

14 Hara, Noriko (2000) Social construction of knowledge in professional communities of practice: Tales in courtrooms. Ph.D. dissertation, Indiana University, United States – Indiana

In the decade of the 90s, it has been necessary to consider social and cultural aspects of learning as a way to foster organizational learning. To facilitate designing effective learning environments, this study calls attention to the importance of informal learning in the training of professionals. The study examines how people share and construct their knowledge in two Public Defender's Offices. Despite strong interests among practitioners and scholars, the study of organizational learning is short of empirical research. Drawing on theories from situated cognition and organizational learning, the study investigates how people share their knowledge and create a shared meaning in workplaces. As a process of sharing knowledge, people form "communities-of-practice." Communities-of-practice are informal networks that support a group of professional practitioners to develop a shared meaning and engage in knowledge building among the members.

Using an ethnographic method, this study reveals the phenomena of organizational learning in communities-of-practice. In addition, the role of information technology (IT) to support learning is examined in this study. The purpose of the study is threefold. The first aim is to explore and develop a better understanding of communities-of-practice in two Public Defender's Offices. The second aim is to generate a local theory of social construction of knowledge in professional communities-of-practice. The third aim is to examine the role of IT to support work practices and learning.

This thesis concludes with a framework of positive characteristics that

foster organizational learning and negative characteristics that impede the process, and six attributes of communities of practice that serve as a scaffolding for organizational learning. The six key attributes of communities of practice are: (1) a group of professionals; (2) development of a shared meaning; (3) informal network; (4) supportive culture-trust; (5) engagement in knowledge building; and (6) individuals' negotiation and development of professional identities.

This descriptive study of the value of Cops is based in the legal profession. It confirms that CoPs are helpful and lists six characteristics for success, which include a passion for the subject and mutual trust as the two key ingredients.

15 Heo, Gyeong Mi (2002) A systematic review of technology to support adult learning in communities of practice. M.A. dissertation, McGill University (Canada), Canada.

This thesis presents a systematic review regarding the way technology supports adult learning in communities of practice. It presents the systematic review procedure that was developed, based on NBS CRD (2001) protocol, from publication sources relevant to the topic. It includes the identification of research from an initial question that is: how does technology support adult learning in communities of practice. In addition, it presents a search strategy, a study quality assessment, a data extraction strategy and a synthesis of findings. Because most of the pertinent research is qualitative, a typology of qualitative research and a critical appraisal checklist for quality assessment were designed and are presented. The results presented have synthesized evidence from studies that meet certain quality criteria and they are discussed in terms of (a) the kinds of technologies applied in communities of practice, and (b) successful features of the technology that seem to contribute to learning.

The full text of this study is likely to be extremely valuable, unfortunately, the abstract only describes the methodology. In essence, it reviewed the value of technology in adult learning that occurs in CoPs. It lists the technologies that were successful and explores the reasons why. This has potential to be a very significant thesis.

16 Sparks, Beverley Victoria (2003) Using oral history collection for collaborative knowledge construction: Developing a community of practice through distributed learning. M.A. dissertation, Royal Roads University (Canada), Canada.

With distributed learning becoming an increasingly common education delivery method and with the recognition of the importance of "defining and redefining community" (Falloff and Pratt, 1999, p.21) as an abettor, the need to understand what makes a virtual community workable, and indeed

successful, becomes critical. This research project provided a unique opportunity to enable and observe part of an established, geographically constrained community as it moved to work online as a community of practice, through the use of materials designed specifically for community empowerment. Using oral history collection for collaborative community knowledge construction segued into the following research question and sub-questions: "Can a community of practice in a rural setting be developed and sustained through the application of distributed learning approaches?" (1) How is community built online? (2) How can the application of distributed learning facilitate a specific community of practice? (3) What are the characteristics of a successful community of practice in a rural community distributed learning project? (Abstract shortened by UMI.)

This abstract has practical application in that it identifies the features that make a Cop successful. Interestingly, a component of the CoP involves oral history. While this is based in native culture, it can be applied to the research community where there is a significant body of knowledge that is not codified. The thesis has potential application in my specific context of research management and consequently, I have selected it for further review.

General

Introduction

The abstracts placed in this section were those that were relevant to knowledge management in a general sense, but did not easily fit into one of the other categories. Several abstracts were not specific enough to gain an adequate appreciation for the study's conclusions. On reading the full thesis some may have been classified differently. This makes it difficult to identify a coherent theme from the collection and this summary is more of the nature of a list of topics. Several studies in this section were from the early days of knowledge management and were descriptive studies of CoPs in a specific context and drew the conclusion that they were successful. There was little further exploration as to why the CoPs were effective.

Several of the abstracts arrived at conclusions with regard to key components of functionality and success of CoPs. Trust again emerged as one of the key factors. Others included freely asking questions and generally engaging in productive enquiry. Abstract 19 looked at discrimination of women in science, but four of five factors involved are also important in developing a functional CoP. The implication of this is that while discrimination of women exists, and it is rightly deplored, explanations, for it are not found in the functionality of CoPs. Evidence for the effectiveness of legitimate peripheral participation was also presented.

Other topics that were addressed include studies investigating the mechanisms of decision making and artificial intelligence. Abstract 15 had the intriguing title "Learning how to know how to do" and investigated using social communication concepts to deal with complexity in the context of learning how to use computer software. Abstract 17 which sought to elaborate on the meaning of discipline in the context of a practice was selected for further review because of general curiosity rather than immediate relevance to my current work.

Theses Selected for Full Review

- 15 Pianfetti, Brian Matthew, Jr. (1999) "Learning how to know how to do": Enabling newcomers to succeed in complex micro-cultures. Ph.D. dissertation, University of Illinois at Urbana-Champaign, United States -- Illinois.**
- 17 Child, Mark G. (1995) "Discipline": What shall we mean? Reconsidering the personal, communal, temporal, and ethical meaning of "discipline" and "the disciplines" in education. Ph.D. dissertation, Brigham Young University, United States -- Utah.**

Abstracts Reviewed

1 Allen, Stephanie (2003) No formal training required: How an informal community of practice helps its members improve their individual performance. Ph.D. dissertation, Utah State University, United States -- Utah

We live in an age where knowledge is recognized as the key corporate asset and the main source of competitive advantage in the world of business. Knowledge management (KM) is the major initiative aimed at capturing and preserving corporate knowledge. It can be viewed from a "management-of-information" perspective, or from a "management-of-people" perspective where knowledge is "managed" within the communities in which the knowledge is generated, refined, shared, and distributed.

"Communities of practice" are informal communities in which knowledge is generated and transferred among members who practice the same trade, or professional practice. People who view knowledge management from the management-of-people perspective view communities of practice (CoPs) as "the critical building block of a knowledge-based company."

Some research has been conducted on CoPs as knowledge management vehicles; however, more research is needed about the way CoPs impact their members' performance. This qualitative case study focused on the ways that CoP membership benefits individuals by helping them improve their individual performance. The study revealed nine functions that the CoP carries out within the organization that lead to improved individual performance. The nine functions are: (1) Help CoP members define their roles and responsibilities; (2) Provide a network through which CoP members exchange resources; (3) Provide an environment where CoP members can share personal work experiences; (4) Facilitate informal and formal training for CoP members; (5) Supply a channel for social interaction among CoP members; (6) Encourage work on major initiatives with other CoP members; (7) Provide opportunities to engage in professional development activities; (8) Encourage CoP members to refine and streamline institutional processes; (9) Provide support for and acknowledge CoP members' work supporting students.

These research findings provide a better understanding of the value that CoPs can provide as knowledge management vehicles where learning and gaining knowledge take place and result in improved performance both at the individual and, by extension, at the organizational level.

This study lists 9 functions of a CoP. The list reinforces what has been learned in Km650. The abstract seems surprisingly light weight for a PhD thesis, but perhaps the methodology was either developed for the study or the findings are based on a very large data set. It is interesting that the research methodology is not outlined in the thesis

2 Iverson, Joel O. (2003) Knowing volunteers through communities of practice. Ph.D. dissertation, Arizona State University, United States -- Arizona.

Knowing is an enacted, communicated process that is difficult to observe, let alone manage. In a similar manner, volunteering is an elusive process that organizations find difficult to control. This research extends Communities of Practice (COP) Theory through an articulation and examination of volunteers as organizational members engaged in knowing. Specifically, two groups of volunteers are examined through a combination of participation, observation, and interviews in order to test COP theory as a dynamic system for examining organizational knowledge. COP theory is divided into three sets of constructs. First, the process of knowing in practice is examined through the interactive duality of participation and reification. Second, mutual engagement, negotiation of a joint enterprise, and shared repertoire represent the elements of a COP. Third, the modes of belonging, including engagement, imagination and alignment, examine the membership in the COP. Through analysis using COP theory constructs, this research provides insights into the various ways in which COPS enact knowing. Both groups of volunteers form and communicate a COP, but do so in different manners. Additionally, this dissertation examines belonging as an alternative construct that is distinct from but encompasses identification. This research reveals that belonging in practice occurs in a relational manner that is enacted through practice. Belonging is communicated and enacted by the group and offers a more interactive, and thus, communicative alternative to the individualistic focus of organizational identification research. Finally, this research offers insights into the nature of volunteering as an enacted process of utilizing knowledge. This insight has implications for knowledge management as well as volunteer management literatures. For knowledge management, not all knowledge is developed through a creation process. Rather, the use and maintenance of knowledge is enacted in the practice of knowing COP members. For volunteer managers, praxical theories of knowledge and specifically COP theory offer a mechanism to move beyond motivation, selection, and retention by examining volunteers' meaning construction through volunteering as it communicates and enacts meaning of the volunteer experience.

This abstract attempts to codify the processes that occur as volunteers function in a CoP. It investigates three important components, knowing in practice, the elements of a CoP and the mechanisms of membership in a CoP. It is difficult to extract useful information from this abstract without knowing more of the context in which the volunteers functioned. It would be necessary to read the thesis to fully understand the implications of this research.

3 Powell, Arthur Belford (2003) "So let's prove it!": Emergent and

elaborated mathematical ideas and reasoning in the discourse and inscriptions of learners engaged in a combinatorial task. Ph.D. dissertation, Rutgers The State University of New Jersey - New Brunswick, United States -- New Jersey

Through discursive and inscriptive analyses, this research provides an understanding of the mathematical ideas and forms of reasoning that learners build as they collaborate to resolve a combinatorial problem task, set in a non Euclidean context, "The Taxicab Problem." The analytic method uses data captured on videotape of an extended problem-solving session involving four 12th-grade students and is ethnographical, microanalytical, and epistemological. The microanalytical investigation focuses in detail on the work of the students, and based on their intellectual actions and products, the study suggests possibilities for larger groups of learners. Epistemologically, the investigation contributes understanding of not only the resolutions the learners develop but also of how they build mathematical ideas and forms of reasoning that in some instances they discard and in others use to formulate a resolution of the problem task. The problem-solving session for this research occurred in May 2000 at the David Brearley High School, in Kenilworth, New Jersey, a diverse working-class, and immigrant community. At the time of this study, the four students were in their twelfth year of involvement in mathematical activities of the longitudinal study of Rutgers University and, as they collaborate to resolve the problem task, display norms of their evolved mathematical microculture.

The study theorizes categories of interlocution whose features and functions reveal discursive practices of mathematics learners and criteria for the identifying in discourse mathematical ideas. Other results indicate that students resolve novel mathematical situations as they engage in talk and develop efficacious problem-solving heuristics. They structure and implement their own methods of investigation, co-construct an understanding of the mathematical structure underlining the task, and build mathematical ideas synchronously as individuals and as members of a community of practice. Analyses of their discursive propositions and inscriptions illustrate how students explain and justify their work, evolve heuristic methods and combinatorial algorithms, as well as articulate dynamical links to build isomorphisms. The findings suggest how time influences cognitive development and how significantly more time ought to be spent enabling learners to collaborate, think deeply about their heuristics, build mathematical ideas, and connect mathematical structures.

This study explores, using students studying mathematics, some of the mechanisms that are used in developing problem solving techniques. It particularly emphasizes the development of heuristic guides in this process. This study is particularly relevant as others have explored how pattern recognition is an important component of problem

solving (Klein, 1999) and this is an important field for further study. Investigation of how these techniques develop in young people has implications in developing teaching methods that encourage this and also in extrapolating the techniques to adults who have become entrenched in inefficient methods.

4 Reinartz, Thomas Joseph, Jr. (2004) Computer-mediated literacy practices through communities of practice: An activity theory analysis. Ph.D. dissertation, University of Minnesota, United States -- Minnesota.

This multi-case qualitative study examined computer mediated communication (CMC) as a vehicle to foster communities of practice for understanding media literacy practices. Through the computer mediated processes of communication, reflection on social interactions, knowledge building, resource integration, and task generation, this study explored how pre-service and in-service teachers learn about media and how to teach media literacy through computer mediated discourse in online and face-to-face learning environments. The questions for the study were investigated largely through qualitative methods including interviews, journaling, focus groups, questionnaires and observations. Findings suggest that resilient school genre systems and competing activity systems created tensions that can be successfully negotiated through online discourse in trusting learning communities. In addition, students who shared and negotiated their own objectives within CMC meetings found it invaluable to supporting their learning, as it served as a mediating "tool" that allowed them to juxtapose ideas and perspectives, and motivate them toward new activities, objectives, and expanded learning.

This study illustrates the importance of trust in a successful CoP and confirms that electronic CoPs can be effective.

5 Theunissen, Shane (2004) Legitimate peripheral engagement as a path to development. M.Ed. dissertation, Queen's University at Kingston (Canada), Canada.

This thesis explores the process of becoming a pot-fisher in Barbados through a strategy of learning called peripheral engagement. Peripheral engagement is investigated as a learning process that may facilitate individual agency within the broader context of community development. As a white South African with a love of the sea, I wanted to learn how adept practitioners from dissimilar communities could learn from one another. The objectives of the study were to (a) determine the feasibility of a development practice that uses a model of peripheral engagement; and (b) find out if interactions with an adept practitioner from a contextually dissimilar community of practice change my practice and thinking. To fulfill the data requirements that might address these objectives I spent three weeks working alongside artisanal fishers in Oistens, Barbados. The

data are presented using descriptive narrative and contextualized through an extensive use of photographs and diagrams. I use my prior learning in development studies and education to compare and contrast my experiences and research into peripheral engagements to development practices that I observed while in Barbados. I utilize this comparison to address the research objectives and substantiate my arguments supporting peripheral engagement as a path to development.

This study confirms the value of the legitimate peripheral learning concept and, much more importantly explores how the model works where the masters and the apprentice are of very different backgrounds. The results of this study have much wider implications to society as a whole.

6 Gross, Diane Linda (2001) Working here and now: An ethnography of practice in temporary office work. Ph.D. dissertation, Northwestern University, United States -- Illinois.

Temporary employment has become increasingly important in the U.S. economy in the past three decades, expanding dramatically in the number of workers represented and as a proportion of private sector employment. However, since permanent full-time employment continues to be privileged as the normative employment model, temporary workers continue to occupy marginal positions both in the larger economy and in the workplaces where they labor. As the use of temporary workers becomes more prevalent, an understanding of their integration into and engagement with workplaces becomes increasingly important for our understanding of work in general. Using participant observation and ethnographic interviews, this study examines the ways in which temporary clerical workers fit into existing office environments, the ways in which they differ from and are defined in contrast to permanent workers, and the ways in which their status as temporary workers impacts work-related concepts such as skill. In order to best accommodate the focus on marginalized workers who operate in a series of different workplaces, I use a community of practice model, which, I argue, provides the most appropriate scope for anthropological studies of workplaces, as they are limited social groups bearing elements of culture. Within this community of practice framework, I discuss the ability of temporary workers to work and interact effectively within the workplace environment, and the ubiquity of temporal concerns in their work experiences (including practical issues of pace, pay, and scheduling; and conceptual issues of how temporary workers are defined and define themselves in terms of time). I demonstrate how examining the concept of skill using this practice-oriented, temporally sensitive approach provides a better understanding of skill as both product and process. Finally, I argue that such an approach can improve our understanding of the interconnections of time, identity, and social reproduction, and the ways in which they co-determine the experience of work for temporary workers

and for workers in general.

This study reviews the role of CoPs in evaluating the sociology of temporary workers. The abstract largely describes the methodology without any clear description of the conclusions.

7 Hammond-Kaarremaa, Liz (2002) Supporting faculty communities of practice using collaborative technologies. M.A. dissertation, Royal Roads University (Canada), Canada.

As post-secondary institutions become more virtual and housed in the online environment, questions arise on finding ways to support faculty and their departments. This research project used a case study methodology to look at faculty in three virtual departments in the e-merge project (a provincial initiative coordinating multiple post-secondary institutions in the creation and delivery of online programs) and how collaborative technologies might have influenced their development into communities of practice and provided faculty support. The research project reviewed collaboration, differentiating it from cooperation or coordination and collaborative technologies from collaborative use of technologies. Interviews and survey results were used to develop recommendations, best practices and guidelines.

This study reviews how online CoPs can be used to allow a dispersed group of university faculty members to collaborate. The abstract indicates that the study addressed well defined and refined questions, but give no indication of what the results where, other than indicating that recommendations for best practices were established. This last statement implies that reading the thesis will probably have practical value.

8 Heath, Barbara Popovec (2001) An analysis of professional development mediated by a university-school partnership. Ph.D. dissertation, North Carolina State University, United States -- North Carolina.

This qualitative investigation describes how a university-school partnership was effective in mediating professional development. The first study examines the impact of the partnership on a beginning teacher, Cathy. The data collection occurred over the first year of the partnership implementation. Data were analyzed using a modified constant comparative method. From this analysis emerged various themes that described the environment which encouraged Cathy's professional development. Cathy's development was depicted along a timeline with the themes that characterized her verbalizations and actions. To understand this development more fully, Valsiner's (1997) zone theory was used to analyze the impetus for development. Results indicated that Cathy's participation with the partnership promoted development that otherwise would not have occurred. Through the partnership a personal induction program for Cathy

was realized. A second qualitative study describes the community of practice that resulted from the university-school partnership. This study focused on the school-based methods course for prospective teachers that evolved as a result of partnership implementation. This course was structured to include daily observations of an inquiry-based classroom and subsequent seminar sessions. This arrangement was compared to the Ball and Cohen (1999) model for reformed professional development. This model includes three criteria necessary for meaningful professional development. Comparison of the partnership to the model revealed a similarity in philosophy and method. Organizing and implementing a community of practice according to the criteria identified impacted education at many levels. The overarching conclusion stemming from the partnership implementation is that inquiry-based teaching and professional development that align with the National Science Education Standards (1996) can be accomplished within the appropriate support structure. This support structure must foster thoughtful discussion, inquiry, reflection, and constant feedback. The impact of this structure on the teacher education curriculum, individual teachers, students, and the science department is discussed and implications for the education community are included. The novelty of this particular partnership and its participants may be difficult to replicate, but attempting to produce opportunities for such development would be beneficial to the teaching profession. Following suggestions in this study may assist other schools in attaining the professional development provided by this university-school partnership.

This observational study investigated the experiences of a single teacher engaged in a school-university partnership and a CoP that evolved. The conclusions were that discussion, inquiry, reflection and feedback were the key components to success.

9 Holliday, Patrick N. (2003) Workplace-focused degrees: Learning in the workplace. M.A. dissertation, Royal Roads University (Canada), Canada.

The importance of the learning community in the adult learning program rests in the interactive nature of adult learning. The community becomes the forum within which ideas are shared thereby enhancing learning (MacKeracher, 1996). Where people share information from within themselves becomes a learning culture (Short, 1998).

The research question that arises from this view of the workplace community of practice as and adult learning community is: (1) What are student views and satisfaction with workplace-focused degrees? (2) Specifically, what are the general learner views toward and the levels of satisfaction with their workplace-focused, British Columbia Institute of Technology (BCIT), Bachelor of Technology in Management Degree program educational experiences and how might these inform BCIT as it considers future program design and delivery? Sub-questions (1) What are the characteristics of the program learners? (2) What are the characteristics

of the Technology in Management Degree program? (3) What are the learner experiences with the workplace focus of the program? (4) What are learner views and general level of satisfaction with the program overall?

(Abstract shortened by UMI.)

This masters thesis investigates the characteristics of the learners and the programmes in workplace based degree programmes and the role of CoPs in this context. Unfortunately, the abstract is truncated and no report of the conclusions is presented.

10 Isenhour, John Lawrence (2000) A community of practice using computer-mediated communication for legitimate peripheral participation. Ph.D. dissertation, University of Illinois at Urbana-Champaign, United States -- Illinois.

This thesis is a study of computer mediated communication (CMC) in a widely distributed community of practice, specifically, craft brewers. I am especially interested in issues of community maintenance and reproduction as they are carried out electronically through a Brewers' Electronic Forum. Whereas many studies of CMC focus solely on "online communities", this study has shown that it is possible for an e-forum community to have ramifications far beyond its existence on the Internet. The Brewers' Forum is a major shaping force in defining the contemporary craft brewing community in the United States, as it allows for effective communication between a large number of people who are widely dispersed. Moreover, the number of postings dealing with issues of community definition, boundaries and practices indicate that the Forum is an important vehicle for discussing and disseminating community-based information resulting in the formation of deep connections between its members.

The primary data source for the study consists of an archived version of the electronic Brewers' Forum. Interviews and observations drawn from personal experience as a participant observer supplement the analysis of the data set. I also consult a variety of printed sources including trade journal and social histories of brewing.

Communities of Practice rely upon the enculturation of newcomers into the community for maintenance and stability over time. Lave and Wenger's (1991) concept of Legitimate Peripheral Participation (LPP) plays an integral role in the reproduction of Communities of Practice. As an approach to situated learning, LPP includes not only traditional apprenticeship methods of learning but also "indirect" CMC learning that takes place on the Forum. An important finding of the study is that only a low level of shared knowledge is needed in order for LPP to occur. This means that the Forum is able to accommodate the shifting "locations" of brewers with varying degrees of experience on their trajectories toward "full participation". Moreover, I suggest that CMC LPP in the form of the Brewers' Forum actually functions as apprenticeship did in pre-Industrial

brewing, leading to the conclusion that CMC LPP in this case is apprenticeship.

This abstract report the findings of a study that investigated the role of an electronic CoP as a medium for legitimate peripheral participation in a group of brewers and concludes that it functions as an effective apprenticeship model.

11 Ju, Mi-Kyung (2001) Being a mathematician: An ethnographic account of the cultural production of a mathematician at a university. Ph.D. dissertation, University of California, Davis, United States -- California.

By investigating the nature of mathematical knowledge communicated in university level mathematics classes, this ethnography of the practice of mathematics describes and analyzes the social transformation of a mathematics learner. This research shows that the mathematics department at a large metropolitan university is a community of practice with an indigenous epistemology, and that learning is a process of participating in the practice of mathematics in a sociocultural context by which a learner becomes socially transformed into a certain kind of practitioner according to the cultural norms and values developed in a mathematics community.

However, social transformation is not a passive process of acculturation. As a practicing mathematician, a learner renegotiates not only his/her logicomathematical cognitive schema but also the meaning of lived experience. More importantly, this negotiation of meaning is based on a learner's worldview, which is developed through his/her experience outside of the mathematics community as well as through the indigenous epistemology of the mathematics community. Specifically, the analysis of metaphor in mathematical communication reveals the dialectical relation between a learner's mathematical subjectivity and the objective system of mathematics.

More generally, this research traces the trajectory of social transformation of a mathematics learner as a coordination between what is communal and what is personal and, as an interaction between the cultural epistemological standpoint developed by a mathematics community and those by outside communities. From this perspective, educational implications for learning mathematics in school are drawn. First, the notion of indigenous epistemology in mathematics class implies that the kind of competence developed there is cultural competence, which includes a cultural way of seeing, reasoning, knowing, speaking and being in the world. Second, the cultural notion of mathematical competence suggests that learning is culturally constructed. In particular, it provides a perspective on a mathematical deficit as a cultural mismatch between school mathematics and the mathematical culture that the learner has been socialized into outside school. This implies that a mathematics teacher

should be aware of and respect cultural differences in order to help a learner overcome difficulties in mathematics caused by a cultural mismatch.

This descriptive study describes the role of CoPs in the training and development of mathematicians. One of the conclusions is that there is a strong discipline specific culture that the neophyte must become a part of in the path towards expertise in the discipline.

12 Klein, Brock Martin (2000) Developing big ideas: The transformation of identity within a community of practice. Ed.D. dissertation, University of California, Los Angeles, United States -- California.

Forging an identity that is at once individual and collective is a significant challenge for all of the members of a community. It is a dynamic, ongoing process that demands personal risk-taking, problem-solving, creativity, and flexibility. Equally important, however, is the development of caring, nurturing relationships. This culminating project is grounded in the belief that learning is a social event that requires an understanding of the norms of the community as well as an active participation in its practices (Wenger 1998). Through the constant negotiation of meaning, members have the opportunity to transform their identities and in the process, promote the learning that occurs for themselves as well as for the entire community.

My study of the second-year architecture program at one community college focuses on the interactions among students and faculty as they engaged in discussion and peer criticism while completing two course assignments. The data that I collected as an active participant and researcher reflect the students' attempts to reach the norms that they set and to develop and integrate their individual and collective identities in the process. During that enterprise, issues concerning participation, leadership, intervention, innovation, competition, and lifelong learning emerged in a variety of contexts: oral critiques (reviews), field trips, design activities, and informal social interaction. My findings reflect the learning that took place for the students and faculty in the program and can lead researchers and practitioners to a better understanding of the role identity and participation play in community-building, collaboration, and learning in school settings.

This qualitative study explores the role of CoPs in the learning process of architecture students. It focuses on the challenges of being a part of the community while simultaneously maintaining an individual identity. The study determined that questions concerning participation, leadership, intervention, innovation, competition, and lifelong learning arose, but the abstract does not elaborate on the findings.

13 Neumann, Laura Jeanne (2001) Communities of practice as information systems: Humanities scholars and information convergence. Ph.D.

dissertation, University of Illinois at Urbana-Champaign, United States -- Illinois.

This study explores the information work practices of humanities scholars. Forty-three scholars from three universities' humanities disciplines were interviewed and observed during 1999-2000. Humanities scholars' work focuses on a large volume of materials in multiple media over a broad time span. For these reasons, they are an optimal case study of information behavior.

Communities of practice are collectivities whose members' engagement with each other, via work practices, constitute the community. The community of practice provides a shared history, creates a common understanding of scholarly work, and shapes professional interaction. Individuals' memberships are trajectories, beginning in graduate school and extending throughout scholars' careers, along which the amount and type of engagement vary.

Work practices are defined collectively through community engagement. The practices described include how they search for and gather information, manage time and tasks, read and analyze information, take notes, and write their own documents. Engagement with the rest of the community takes place throughout each of these practices--peers help each other find information, and directly or indirectly define what resources are critical, they critique each others' work, they read and discuss or ignore each others' publications. Research is carried out and evaluated in a process of interaction with community members, standards, and shared history. These practices are rooted in a base of resources and tools which significantly contribute to and shape scholarly work.

Scholarly work practices create and constitute two essential resources: personal collections and individuals' expertise. The personal collection, which reflects past and ongoing scholarly work, and professional expertise, the ever-changing base of knowledge and experience, are the basis upon which research develops and professional identity is formed. This professional identity shapes and reflects scholars' success in academia.

Ultimately, the community of practice itself constitutes an information system. The central dynamic of this is information convergence, the alignment of practices and resources. This convergence is created in the course of becoming a full member of the community of practice, and is enacted through the practices of the community. This holistic understanding of humanities scholars' work leads to new understandings of how and why people use information resources.

This descriptive study presents an account of how graduate students in the humanities function in CoPs. The two most important components of the CoPs were the expertise of the members and their personal collections of information and knowledge. Although not explicitly mentioned the abstract clearly gives the impression that a component of

situated peripheral participation is involved. The study provides more evidence of the functionality of CoPs in an educational setting.

14 Pawlowski, Suzanne D. (2001) Managing the ties that bind: An investigation of the broker role of IT professionals. Ph.D. dissertation, Georgia State University, United States -- Georgia.

This study examines the role of information technology (IT) professionals as brokers in organizations--facilitating the flow of knowledge and transactions between communities of practice. The increased reliance of organizations on integrated and shared information systems and databases (e.g., ERP and data warehouses) has placed IT professionals in a broker role between the communities that share these resources. The study provides key insights into the challenges and opportunities offered by this role. Wenger's theory of communities of practice is used as the theoretical framework. The study design is an in-depth interpretive case study of a large manufacturing and distribution company, and relies primarily on qualitative evidence from semi-structured interviews of IT professionals.

The study contributes to the development of communities of practice theory through demonstration, elaboration, and extension of the theory. A major extension is the Boundary Object/Brokering System Model--a new theoretical context to investigate and understand the relationships of boundary objects, the communities of practice bound by those objects, and boundary object brokering.

The case study illustrates how the traditional role of IT professionals has been augmented to include brokering tasks, providing new issues and implications for theory and practice. Participation by IT professionals in IT stakeholder communities was identified as a critical issue, affecting their ability to learn about and influence those practices. Data analysis revealed strategies and barriers to learning practice; management practices that blurred boundaries between IT professional and IT stakeholder communities; the importance of learning practice to establish credibility and "earn a seat at the table" in stakeholder organizations; and organizational barriers and facilitators of IT brokering. IT professionals had privileged access across business unit boundaries, and the organizational knowledge held by IT professionals was seen as broader and deeper than that of other organization members. Strategies and processes for surfacing and moving knowledge were identified, e.g., translation and situated interpretation, and asking "why" to surface and challenge assumptions.

Implications of the brokering role of IT professionals on organization learning, and implications for IT research including IT governance design, support for shared systems, and human resource practices for IT professionals are discussed.

This interesting study explores the role of information technology experts as brokers of knowledge, based on their role with virtually all of the divisions within an organization and the significant influence that they may have on the organization's strategy. This is an interesting perspective that information technology personnel may have a more general influence than previously thought. However, in many organizations they are seen as having a predominantly service function, and often associated with a poor perception of value, used only when computer or the network malfunctions have occurred. Not to belittle the significant contribution of information technology, but my view is that their role is to use their skills to provide solutions to specific problems that have been identified and to project new strategies in the information technology division of the organisation. Otherwise, there is a tendency for the social aspects of information and knowledge sharing to be overwhelmed by information technology.

15 Pianfetti, Brian Matthew, Jr. (1999) "Learning how to know how to do": Enabling newcomers to succeed in complex micro-cultures. Ph.D. dissertation, University of Illinois at Urbana-Champaign, United States -- Illinois.

The oversimplification of "step-by-step" approaches to software design and instruction creates conceptual barriers for learning in local communities of practice, micro-cultures. This study explored the efficacy of using a sociocultural-based learning environment to help novice computer users understand the complexity associated with modern software applications. Learners were presented with a variety of procedures, interpretations and contexts of computing from different communities of practice, increasing the probability that they would martial a cognitively flexible approach to accomplishing tasks. These presentations were made through five animated characters, based on the Microsoft Agent technologies, which were able to interact with the user as an "expert" a learner could call upon for help. During each stage of the research the subjects could also get second and third opinions from the remaining characters enabling them to have more options when attempting to complete a task. Results from the study indicate that learning to use a computer with this character based help system enabled novice users to transfer knowledge to novel situations and to create innovative solutions to problems better than users who used traditional "step-by-step" methods of instruction.

This abstract could have been classified in almost any category as it has applications in both teaching others and teaching one's self in a variety of different contexts. A review of the Microsoft Agent web page revealed that the software may have quite wide applications. Reading the full thesis will be valuable to learn of the researcher's experiences. As with so many abstracts this does not give a synopsis if what the results actually were.

16 Batali, John Dino (1991) Automatic acquisition and use of some of the

knowledge in physics texts. Ph.D. dissertation, Massachusetts Institute of Technology, United States -- Massachusetts.

This report describes an investigation of the workings of expository technical texts with the goal of being able to automatically acquire and use some of the knowledge that they contain. The motivating question is: How does the presentation of material in college-level physics textbooks make it possible to solve problems based on that material?

My hypothesis is that a lot of what is needed to solve problems is encoded fairly straightforwardly in the linguistic structure of the presentation text. Presentation passages often begin by describing a scene or telling a simple story. The physics is then introduced as a commentary on the described scene or story, perhaps by deriving an equation relating quantities in the story, or by introducing a physical phenomenon that occurs in the situations described. Problems are also presented as simple stories, and solving a problem requires locating in the presentation text a description of a situation that subsumes the one in the problem so that the associated equations can be applied.

A program, called "Sagredo," was written to illustrate these ideas. Sagredo can read a passage of text describing elementary kinematics and can solve problems based on that material. As the program processes the source text, it interprets a set of definitions and rules in a unification-grammar based logic programming formalism, and constructs a representation of the occurrences described by the text. When it encounters passages that present new material, the program records definitions and rules that it can later instantiate when it reads and solves problems.

One result of my reading lots of physics books was the realization that textbooks do much more than just list the laws of physics or show how to solve problems. Especially in the earlier chapters, where the fundamental principles and methods are treated, physics textbooks often resort more to rhetorical persuasion than to the sort of logical presentation that a program can easily follow. A complete account of the workings of expository technical texts must attend to wider roles that such texts play in the creation and maintenance of their communities of practice. (Copies available exclusively from MIT Libraries, Rm. 14-0551, Cambridge, MA 02139-4307. Ph. 617-253-5668; Fax 617-253-1690.)

The abstract describes a study that involved writing a computer programme that reads a physics text book and applies the information to specific problems. This represents a step in the development of artificial intelligence. No doubt there is a role for this technology, but it is very important that its use is investigated in its appropriate social context, otherwise it will be touted as a panacea to save the world with subsequent failure. It must be developed in a suitable context, recognizing that the context will develop in parallel to the technology itself.

17 Child, Mark G. (1995) "Discipline": What shall we mean? Reconsidering the personal, communal, temporal, and ethical meaning of "discipline" and "the disciplines" in education. Ph.D. dissertation, Brigham Young University, United States -- Utah.

What we refer to as "the disciplines" are central to the work of formal education. How we think about them; what we take for granted with regard to them, has a significant influence on how we perceive, and proceed with, our curricular, pedagogical, developmental, and institutional challenges in education.

I argue in this dissertation that (1) we commonly assume an impoverished view of "the disciplines" which overlooks the vital personal, communal, temporal, and ethical aspects of disciplinary experience. The inadequacy of this common view is tied to deeper problems associated with modernism.

(2) I suggest that a richer view of "discipline" that includes these overlooked aspects is needed. The heart of the dissertation (chapters 4-8) develops this richer perspective, thus bringing the overlooked aspects (back) into the conversation and bringing new life to the meaning of the terms "discipline" and "the disciplines."

In chapters 9 and 10, having developed a perspective on "discipline" and the communities of practice we call "the disciplines" which includes the personal, communal, temporal, and ethical aspects, I then discuss what difference it would make in how we think, and how we proceed with our work of teaching "the disciplines" to the rising generation if we were to accept the perspective developed in chapters 4-8, particularly with regard to ethics.

This is a philosophical review of what the disciplines are and their meaning in society. Short of repeating the abstract it is impossible to summarize the meaning of this thesis without reading it in full. It is a very intriguing abstract and the full thesis is worthy of review.

18 Crichton, Susan Elizabeth (1993) Encouraging on-line social interaction: The use of expert practice. M.A. dissertation, Simon Fraser University (Canada), Canada.

This thesis is a case study of one computer conference, Writers In Electronic Residence (WIER). It explores the use of expert practice as a moderating strategy to encourage on-line social interaction. The purpose of the social interaction was to allow participants to negotiate meanings and exchange commentary concerning issues arising from the students' writing.

The computer conference studied (WIER) is based in Toronto and sponsored by the Writers' Development Trust. It connects schools nation-wide with professional, Canadian writers. Students, teachers, and expert writers worked together, on-line, to discuss the students' original writing and

talk about issues arising from the on-line commentary.

The theories of Vygotsky and Wertsch (expert practice) and Lave and Wenger (situated learning) form the basis for this study. The application of their work on the relationship between the learner and the more experienced expert in the establishment of a community practice informed the analysis of the exchanges among student writers and their professional counterparts.

The participants' words, taken directly from the computer conference, are used in this study. Their words were more eloquent than anything that could have been summarized or restated. Each of the eleven participants selected for this study not only took part in the WIER conference, but also agreed to help with this research and join an on-line interview branch.

During the analysis of the data, the focus of this study was broadened. It was necessary to include an examination of some of the human factors (such as the use of ASCII characters to personalize the text) that came into effect as the participants established an on-line community of practice. Current literature (Mason, Riel, and Levin) suggests that computer conferences need clear organization and moderation. This study supports those suggestions and illustrates that expert practice can be an effective moderating strategy.

This study adds to the body of knowledge that helps to provide an understanding of how on line Cops function and elaborates some of the characteristics of successful participants.

19 Davis, Kathleen Sue (1996) Science support groups for women and girls: Capturing capital, challenging the boundaries, and defining the limits of the science community. Ph.D. dissertation, University of Colorado at Boulder, United States -- Colorado.

This study examines two science support groups for women and girls that aim to be "gender-sensitive" and seek to provide opportunities for women and girls to participate legitimately in the science community. This study describes the specific kinds of capital (cultural, social, economic, and symbolic) that were needed, sought, and used within these groups, the ways in which this capital was acquired, and the ways in which these groups then intersected with the science community. This study addresses the following questions: (1) What kinds of capital do these groups prefer and/or possess and in what ways are they consistent with the capital valued by science and scientists? (2) What forms of capital remain hidden from the participants' view? (3) What barriers prohibit the participants' full access to the capital perceived as needed by the science community? (4) In what ways do women science educators facilitate women's and girls' participation in science.

The study sites included Explorers, an after-school science club for

girls, ages 7-12, located at a multicultural, co-ed city youth club near the Rocky Mountains. Explorers provided girls with hands-on science activities under the guidance of a woman science educator. The second group--Women in Science--met to discuss issues important to women in the science community and consisted of women working in science at an academic research institution. Data was collected in the form of interviews, field notes taken during participant observation, and analysis of group documents.

Results of this study indicate that despite women's and girls' ability to "capture" capital valued by the science community, a combination of structural and social forces resulted in their marginalization and/or exclusion from science. Various kinds of capital, policies, and practices are needed in order to be "gender-sensitive" and provide women and girls with opportunities to legitimately participate within the science community. The following factors are discussed: (1) inclusive and participatory communities of practice, (2) acknowledgment of men's and women's societal experiences, (3) inclusive, open, and honest contexts for discourse, (4) equitable and cooperative social structures, and (5) the absence of discriminatory and oppressive practices.

An interesting study that explores factors in discrimination in science. It is surprising that so few abstracts have explored these issues. Interestingly, at least four of the five factors discussed have more general application to the functionality of CoPs in general.

20 Lison, Cheryl A. (1993) Problem-solving with others: Collaborative conversations. Ed.D. dissertation, Peabody College for Teachers of Vanderbilt University, United States -- Tennessee.

This study investigated a model of collaborative problem solving that is based on an open system of mutually influencing elements: organizational environment, problem domain, community of practice, and individuals who generate a joint solution as a result of a problem-solving conversation. Research was conducted in a class setting. Subjects (23 females, 7 males) were enrolled in a graduate course in social psychology. Qualitative and quantitative analyses were done.

Participants, who had individually written a recommendation for solving a complex organization-change problem, were paired and asked to collaboratively solve the same problem. This provided a baseline for individuals--without a firm sense of their own work, they would not be able to evaluate whether the additional, collaborative effort improved their solution. Pairing was same sex whenever possible.

Experience in the problem domain, defined as years of work in organizations, was hypothesized to positively influence the collaborative conversation. Dyad experience, the sum of the partners' experience, ranged from 6.5 to 54 years. Change from individual to dyad solutions also was investigated.

Four data sets were analyzed: (a) individual and (b) dyad written solutions, (c) post-activity questionnaires, and (d) recorded and transcribed conversations.

The finding of a negative correlation between experience and dyad solution scores was counter-intuitive. Analysis of the scoring protocol showed that this result could be attributed to fewer rationale statements supporting the conclusions of the high-experience dyads in relation to the low-experience dyads.

Two thirds of the individuals changed their recommendations in the dyads. All dyads had on-task recommendations, although 3 individuals did not. Participants perceived the problem as authentic. They believed their joint solution was better than their individual solutions and that dyad solutions were effective. High-experience dyads were less confident of their solutions. Conversation analysis suggests this may have been because they better understood the complexity of the problem.

Transcripts show that dyads established a conversation agenda, examined assumptions, explored the problem and solutions, and documented their recommendation. They accomplished these conversational acts in patterns that included point/counterpoint, assumption/counter-assumption, and question-answer-evaluation sequences. Results were used to refine a model of effective collaborative conversations.

This study investigates how working in pairs can improve the quality of solutions to complex problems when compared to solutions generated individually. The researcher presents data that the pairs functioned better, but, at least in the abstract, does not discuss neither why, nor the mechanisms that might be involved. If the mechanisms were not investigated, a strong argument can be made that a future study should do just that so that successful techniques can be identified and made generally available.

21 Rummel, Sandra Gaumond (1996) In the name of cancer: Meaning-making and women's leadership. Ed.D. dissertation, University of St. Thomas (Minnesota), United States -- Minnesota.

The women in my case study enter the realm of leadership by joining the public conversation about cancer's meaning through the creation of their resource center. Leadership is the process of making meaning in community, of deciding what's important in living our lives together. When people, as unique individuals embedded in a social system, notice those elements of their world that may need rethinking, and then cooperate with others in the search for alternatives, they participate in shared meaning--they contribute to the process that "makes leaders out of people" (Drath & Palus, 1991). Just so, when the women in my study come together in the creation of their resource center, they weave from their combined stories a critique of the way our culture names cancer. In renaming cancer they begin to repair credibility, examine context, temper complexity and face the consequences of the way cancer has been named. Connecting the

limitations they see in women's lives with the cancer puzzle, the women question cultural assumptions that perpetuate both.

To answer the question why so little progress has been made in the fight against cancer, the women suggest failure is due to naming cancer too narrowly. The responsibility they assume for finding a cancer solution binds them in a community of practice that draws their private cancer memories into the public cancer conversation. Addressing the personal needs of women with cancer, the center's programs rename cancer, not only as an integral part of our lives, but also as a symptom of powerful patterns depleting our resources--human and natural--and so creating a threat to peace. Through their programs the women's leadership produces tangible results.

The metaphor the women use to restructure old assumptions renames cancer broadly. The symbol they choose proposes a different world picture, one of people living cooperatively in a healthy world. It recognizes not so much the consciousness they have of cancer, but the energy they draw from one another as they work to eliminate it. Through symbols and celebrations they model imaginative leadership that renews the spirit.

This study is from the early days of Knowledge Management and describes the experiences of a group of women cancer victims in a CoP. The abstract describes how they were able to rename cancer in their own context.

22 Taylor, H. Jeanie (1998) Life stories in everyday practice: A feminist communication study of life stories at the Bunting Institute, Radcliffe College. Ph.D. dissertation, University of Illinois at Urbana-Champaign, United States -- Illinois.

This project takes a feminist communication approach to life stories in practice which builds on work in psychology on the role of life stories in self-construction (Miller, 1994; Bruner, 1987; Rosenwald & Ochberg, 1992); Charlotte Linde's (1993) work on the life story as a social unit created and exchanged in interaction with others; and work on the situated study of language and gender (Eckert & McConnell-Ginet, 1994, 1995; Gal, 1991, 1995).

For a year in the 1990s I studied creative women's life stories in the context of the developing community of practice at the Bunting Institute, Radcliffe College. The Bunting community was composed of 36 Fellows, academic women, artists, and activists, ranging in age from 29 to 66. At the Bunting Institute during this period, life story tellings were consciously encouraged and nurtured by the institute staff both through example and in the structuring of formal and informal gatherings of the community leading to a story-friendly environment. Three sources of evidence were collected--life story interviews, field notes from participant-observations, and recordings of life story fragments from public events.

Unlike previous life story studies which have looked solely at elicited stories, this dissertation looks at both life story interviews and "stories-on-the-fly," naturally occurring life story fragments, and their role in the daily interaction at the institute. This study gives us for the first time evidence of how life stories are constructed through negotiation with others in daily interaction.

In this particular community of practice life story fragments played an active role in the development of "community" and in the ability of fellows to engage in effective cross-disciplinary dialogue.

Stories-on-the-fly grounded academic subject matter in the lives of the fellows, and often provided a way into the intellectual heart of the matter. In addition, these stories played an important role in the "whole life" ethos of the institute. Over the course of the year these regularly occurring stories came together to create a larger story, one that began to resist constraints on the "possible lives" (Bruner 1987) available in this culture.

This largely descriptive abstract presents an account of the value of narrative in sustaining a CoP. As such it provides additional evidence for the value of narrative.

23 Boyer, Carol Ann (2003) Communities of practice and the support of core competency knowledge in the information technology consulting firm. Ph.D. dissertation, Capella University, United States -- Minnesota.

Knowledge-based resources have emerged as the most important driver of business value in the services industries. Using the knowledge-based view of the firm, this study focused on obtaining and sustaining competitive advantage through the development of a distinctive set of core competencies within Communities of Practices (CoPs). Using quantitative survey methods, the relationship between the knowledge capability of the firm, types of core competency knowledge, and the relatedness of knowledge between business units was explored. The results imply a relationship between the relatedness of knowledge between business units and the knowledge capabilities supported within the CoPs. This suggests that the knowledge capabilities supported within the CoPs are tied to the knowledge needs of the organization.

This study, which is the only one that directly relates to business practice in the conventional sense, investigated the value of CoPs in the support of the knowledge needs of the organization. Although not explicitly stated, the author appears to imply that a positive correlation between the two was found.

Conclusions

The assignment proved to be a useful exercise in that it provided me with an overview of the research that has been done in the area of CoP. It was quite clear that some of the abstracts that were retrieved had little direct relevance to the CoP, but all were relevant to the general topic of knowledge management. This is probably a reflection of a requirement to include several key words when submitting the thesis for inclusion in the database and in many cases there are fewer key words that are truly relevant than required. In many cases it was challenging to extract the full meaning of the work from the abstract only, and consequently it was very tempting to want to read the full thesis in a large proportion of the studies. The methodology used in this project could form the basis for a meta-analysis, as discussed below as a thesis topic for a master's degree. If this were pursued it would be necessary to read the entire thesis for all studies to ensure that the true conclusions and significance were determined. Preparation of this document is the first part in an ongoing process to retrieve, read and assimilate the most relevant theses that have been selected for further review. As an interesting aside, it is noteworthy that there was a definite preponderance of research done in Canadian universities.

The review revealed considerable variation in the quality of the abstracts. A good abstract should give a concise description of the methodology in general terms and provide the greatest detail of the conclusions so that the reader can determine if they are relevant to their own context. With an unfortunately large number of abstracts there quality of the conclusions was sufficiently poor and non specific that, unless the full thesis was available, it was not possible to grasp what the real conclusions were.

Reviewing all of the data provided an interesting historical perspective on the development of knowledge management. Many of the early theses were descriptive in nature and confirmed the value of CoP in a university or school environment. Several of the studies are very general in nature, and a number simply repeated and confirmed the findings of previous studies, particularly those related to teaching. This does not imply that repeating a previous study is poor research. At the masters degree level this is appropriate as a major component of this degree is to train the candidate in research methodology. Additionally, confirmation of a previous finding by a different investigator strengthens the application of the results to the general population. As a result, the key, broad features of success and functionality of a CoP have been confirmed..

Presumably, as the discipline of knowledge management matures, a number of changes in the type of research can be anticipated, or at least be considered to be desirable. I suggest that the research will, or at least should, become more focused, concentrating on specific issues and elaborating mechanistic features. These results will allow suggestions as to how to improve the functionality of CoPs to be made and subsequently investigated for effectiveness. The discipline has now developed to the point where the time is ripe for a meta analysis of these studies to allow more general conclusions to be made. In addition, such an analysis would provide a foundation for more focused studies that investigate, at a more detailed level, the social interactions that are involved. For example, trust between the members of a CoP has clearly emerged as an important criterion for the success of a

CoP. The next step is to determine what are the specific circumstances or characteristics of communication that allow trust to be developed. This would take the level of understanding beyond a bald statement that trust is required. More focused investigations will also allow a more quantitative rather than descriptive approach to be taken.

Only a small number of the studies involved investigation of research and research groups. This is a potential rich source of new data as many social networks and CoPs develop in research. Increasingly, research funding agencies are encouraging multi-disciplinary and multi-institutional collaborations. Government funding agencies in particular are encouraging collaborations between research institutions and industry in all of its various forms. Since these two constituencies have very different cultures, it can be expected that not all CoPs that develop will be completely functional initially. As indicated in the results section, almost all of the limited number of studies identified had immediate application to my work. The two that are of the most immediate relevance in the research section are number 4, which involves intellectual property and number 8, which investigated the development of a research CoP, in very similar circumstances to a one that I am currently involved in starting

The exercise involved in preparation of this document, and the Royal Roads Programme in general, have markedly changed my understanding of the role of narrative in knowledge management in general and specifically in the context of CoPs. It is clear that narrative is a key mechanism by which information is exchanged between members of the CoP, and is vital to the creation of meaning. A CoP would have great difficulty functioning without the use of narrative. Prior to my involvement in knowledge management my perspective on narrative, or story telling, was that of low key activity that had no intellectual value and was most easily associated with bed time stories told to children. When discussing the use of narrative with the members of a CoP it is very important to choose words carefully, or perhaps not directly refer to narrative to avoid conjuring up similar attitudes and prejudicing the chances of success of the group.

In retrospect, I find it surprising that I had not made the connection between what in the medical world is known as case based teaching and narrative. The case based approach always starts with a narrative component. Although I have no direct experience, I have no doubt that teaching problem solving in other disciplines also involves narrative. The only difference is the nature of the anecdotes.

When using anecdote, especially in clinical based research it is very important to keep the use of narrative in an appropriate perspective. Anecdote is a starting point only, the subsequent research must be based on hard evidence before a given technique can be applied to clinical practice. Informal CoPs exist in clinical practice and are often the starting point for new research studies. These informal CoPs, often known as rounds or ward rounds, where the clinical team discuss each of the patients that they are responsible on a daily basis frequently have a component of narrative in the discussions. It is these collections of narratives that stimulate the ideas for new research projects. There is considerable scope for study of these CoPs in order to elaborate how the function and subsequently improve their function.

A number of recurring themes were evident from the review of the abstracts. The first, and by far the most striking, is the frequent emphasis that was placed on the development of mutual trust to ensure functionality of a CoP. As indicated above, this suggests a need for further research into the specific circumstances that lead to the development of trust, both in face to face and distant CoPs. A second theme that was evident was the overlap between CoPs and legitimate peripheral participation. An explanation for this is that knowledge management is a continuum of different techniques where there are not always clearly defined definitions of each technique. In most cases, they are context specific and significant overlap occurs. An additional theme that was evident was how a number of studies investigated the mechanisms by which decisions are made, although this was not always explicitly stated in the abstract. This is an area that is ripe for further research as the methods by which members function within CoPs are elaborated. Finally, it was evident that a facilitator or champion is vital to the success of a CoP, and the function of this facilitator is very much an active rather than a passive role.

In conclusion, this project has met the goals of broadening my understanding of knowledge management in general and CoPs specifically and has provided a document for future use. It has also emphasised that although my depth of understanding of the discipline has substantially increased over the past six months, I am still only scratching the surface

References

Brown, J., & Duguid, P. (2000) *The Social Life of Information*. Massachusetts: Harvard Business School Press.

Klein, G. (1999) *Sources of Power How People Make Decisions*, Massachusetts: MIT Press.