TEACHER LIBRARIANS, TECHNOLOGY, AND COLLABORATIVE CONNECTIONS: A CASE STUDY OF TEACHER LIBRARIANS FROM A COMMUNITIES OF PRACTICE PERSPECTIVE

by

Hazel Grace Clark
B. ED. University of British Columbia, 1987

A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in the
Faculty of Education

© Hazel Grace Clark 2006

SIMON FRASER UNIVERSITY

Spring 2006

All rights reserved. This work may not be
reproduced in whole or in part, by photocopy
or other means, without permission of the author.

Approval

Name: Hazel Grace Clark

Degree: Master of Arts

Title of Thesis: Teacher Librarians, Technology, and Collaborative Connections: A Case Study of Teacher Librarians from a Communities of Practice Perspective

Examining Committee:

Chair:

Dr. J. van Aalst
Senior Supervisor
Assistant Professor, Faculty of Education

Dr. C. Amundsen
Supervisor
Associate Professor, Faculty of Education

Dr. A. MacKinnon
External Examiner
Associate Professor, Faculty of Education

Date Defended: Jan. 05/06

SIMON FRASER UNIVERSITY library

DECLARATION OF PARTIAL COPYRIGHT LICENCE

The author, whose copyright is declared on the title page of this work, has granted to Simon Fraser University the right to lend this thesis, project or extended essay to users of the Simon Fraser University Library, and to make partial or single copies only for such users or in response to a request from the library of any other university, or other educational institution, on its own behalf or for one of its users.

The author has further granted permission to Simon Fraser University to keep or make a digital copy for use in its circulating collection, and, without changing the content, to translate the thesis/project or extended essays, if technically possible, to any medium or format for the purpose of preservation of the digital work.

The author has further agreed that permission for multiple copying of this work for scholarly purposes may be granted by either the author or the Dean of Graduate Studies.

It is understood that copying or publication of this work for financial gain shall not be allowed without the author's written permission.

Permission for public performance, or limited permission for private scholarly use, of any multimedia materials forming part of this work, may have been granted by the author. This information may be found on the separately catalogued multimedia material and in the signed Partial Copyright Licence.

The original Partial Copyright Licence attesting to these terms, and signed by this author, may be found in the original bound copy of this work, retained in the Simon Fraser University Archive.

Simon Fraser University Library
Burnaby, BC, Canada

SIMON FRASER UNIVERSITY library

STATEMENT OF ETHICS APPROVAL

The author, whose name appears on the title page of this work, has obtained, for the research described in this work, either:

(a) Human research ethics approval from the Simon Fraser University Office of Research Ethics,

or

(b) Advance approval of the animal care protocol from the University Animal Care Committee of Simon Fraser University;

or has conducted the research

(c) as a co-investigator, in a research project approved in advance,

or

(d) as a member of a course approved in advance for minimal risk human research, by the Office of Research Ethics.

A copy of the approval letter has been filed at the Theses Office of the University Library at the time of submission of this thesis or project.

The original application for approval and letter of approval are filed with the relevant offices. Inquiries may be directed to those authorities.

Bennett Library
Simon Fraser University
Burnaby, BC, Canada

Abstract

The role of teacher librarians is changing in an era increasingly influenced by information and communication technology (ICT). The goal of this study was to document and analyze the work of teacher librarians and how it contributes to the delivery of educational programs. The work of a group of six teacher librarians was examined as an example of a community of practice. Email messages, field notes, and artifacts representing the work of these teacher librarians were collected over five months. Data were analyzed using codes developed from Wenger's community of practice research, and conversation analysis. The research questions considered whether the teacher librarians constituted a community of practice, the nature of that practice, and how this practice correlated with the delivery of instructional programs. It is argued from the findings how the notion of a community of practice may be helpful in reconceptualizing the nature and role of teacher librarianship.

Dedication

To my mother, ***Jessica Clark***, an unfailing positive spirit, who has always encouraged me in my endeavours, every step of the way.

In memory of my father, ***Elmer Clark***, a gifted intellectual, who wished for his daughter to have opportunities he did not have. Dad would be proud.

Acknowledgements

I would like to thank various people for the roles they have played in enabling the completion of my Masters degree.

First, to the teacher librarians of ***Livin' the Dream*** who allowed me the privilege of studying their work. You are a daily source of inspiration - truly remarkable – **Master Teacher Librarians.**

Dr. Jan van Aalst, who as my senior supervisor, provided guidance and encouragement to focus my writing, and both constant support and reassuring faith in my research.

Dr. Cheryl Amundsen, who as my committee member, provided thorough and thoughtful suggestions and a belief in my study.

Dr. Allan MacKinnon, who as my external examiner, provided a thoughtful reading of my thesis.

Dr. Rosamund Stooke, who as the chair of my examination committee, brought a kindred spirit to the defense.

Finally, to my ***family*** and ***friends***, for your various ways of helping me through this journey.

Table of Contents

Approval ii

Abstract iii

Dedication iv

Acknowledgements v

Table of Contents vi

List of Figures ix

List of Tables x

Chapter 1: Introduction 1

Livin' the Dream 3

The Study 7

Overview of the Thesis 10

Chapter 2: Conceptual Framework 11

Review of the Literature on Teacher Librarianship: The Changing Role of the Teacher Librarian 11

Teacher librarians and information communication technology (ICT) 19

Teacher librarians and information literacy instruction 23

Teacher librarians and knowledge management 24

Correlation between the work of teacher librarians and student achievement 27

Theoretical Perspective 28

Communities of Practice 29

Related Learning Theories 33

Community of learners 33

Organizational learning 34

Studies of CoPs 36

Computer Mediated Communication and Online Learning Communities 40

Computer mediated communication (CMC) 40

Online learning communities 42

Conclusion 44

Chapter 3: Methodology 47

Rationale for Methodology 48

Choosing a methodology 48

Analytical methods: content analysis and conversation analysis 52
Case Context: Description of the Setting and Participants 54
Overview of Data Collection and Analysis 56
Direct observations 57
Participant observations 57
Documents 58
Data analysis 59
Analysis of Research Question One 60
Content Analysis: Description of Subcodes 60
Conversation Analysis: Description of Codes 65
Analysis of Research Questions Two and Three 72
Content Analysis: Description of Subcodes 72
Robustness of the Study 80
Summary 82

Chapter 4: Livin' the Dream: A Community of Practice? 83
Overview of the Data and Analysis 83
The Teacher Librarians of Livin' the Dream 84
Findings: Content Analysis 87
Domain 87
Community 92
Practice 96
Findings: Conversation Analysis 100
Conclusion 105

Chapter 5: The Identity of Livin' the Dream 107
Overview of the Data and Analysis 108
Teacher Librarians Support Curriculum and Engage in Professional Development 109
Engagement and Library Program Development 109
Imagination and Professional Development Opportunities 120
Teacher Librarians Link with Educational Programs 126
Imagination and Alignment link with Educational Programs 126
Summary 135

Chapter 6: Discussion 137
Livin' the Dream as a Community of Practice 139
The Identity of Livin' the Dream 141
Situating the Findings in the Literature 143
Limitations of the Study 148
Implications for Research and Practice 151
Conclusion 153

References **155**

Appendix **165**

Appendix A 166

List of Figures

Figure 3.1: Example of Conversation Analysis Coding 70
Figure 3.2: Example of Content Analysis Coding 76
Figure 3.3: War and Its Aftermath Compiled Bibliography Document 79
Figure 4.1: Example of Conversation Analysis 102

List of Tables

Table 2.1: Wenger's CoPs Indicators 30
Table 3.1: Data Collected 57
Table 3.2: Definition of Major Content Analysis Codes 59
Table 3.3: Subcodes for Wenger's Indicators that a Community of Practice Exists 62
Table 3.4: Definition of Major Conversation Analysis Codes 66
Table 3.5: Subcodes for Conversation Analysis 68
Table 3.6: Subcodes for Wenger's "Modes of Belonging" Engagement 74
Table 3.7: Subcodes for Wenger's "Modes of Belonging" Imagination 74
Table 3.8: Subcodes for Wenger's "Modes of Belonging" Alignment 75
Table 4.1: Data Collected and Data Analysis Links 84
Table 4.2: Livin' the Dream Teacher Librarian Experience 85
Table 4.3: Summary of Livin' the Dream Teacher Librarian's Email Postings 86
Table 4.4: CoP Engagement in Domain Related Practices 92
Table 4.5: Examples of Dialogue Indicating Community of Practice 100
Table 4.6: Summary of Conversation Analysis Interactions 101
Table 4.7: Conversation Analysis Codes 104
Table 5.1: Data Collected and Data Analysis Links 108

Chapter 1
Introduction

The following vignette illustrates a working day in the life of a group of teacher librarians. The day described is representative of a real day and is a collection of actual events, although not observed all on the same day. [1]

> It is 7:30 am. Linda begins her work-day by checking her email. There are two messages from fellow teacher librarians of her Livin' the Dream group, posted yesterday afternoon. Marie requested suggestions for book titles related to a war theme. Kathy asked for any plagiarism teaching resources. By 9:30 am Kathy, Linda and Laura have checked in with war themed book titles. Linda and Marie have offered plagiarism exercises and web resources. By 10:30 am Marie is off-line teaching a class how to create multimedia presentations in powerpoint. Kathy is off-line teaching a class how to compile a bibliography from web related sources. At 1:00 am Kathy posts a message to Livin' the Dream, offering a tip sheet she has created on accessing the networks being installed district wide. At 2:00 Linda is off-line working with a class and wireless lap tops, teaching effective Internet search strategies. At 4:00 pm the Livin' the Dream group meets at Marie's house for a dinner meeting where discussions of work related issues and district initiatives arise. Laura has brought copies of her "evaluating Internet resource" exercises. Kathy has brought resources she picked up at a provincial teacher librarian

[1] All names of teacher librarians and other personnel in this thesis are pseudonyms.

conference and the network access tip sheet. Linda has brought a reading promotion idea. Marie has brought new books to share and preview. It is 9:00 pm; Linda is at home checking her email, finding messages received from website subscription services. She reviews the list, assesses those which could be recommended to support curriculum. Linda forwards them to departments in her school and to Livin' the Dream, which will be waiting for them in the morning.

If Melville Dewey, the father of librarianship and the Dewey Decimal classification system, were to walk into a library today, he would notice a few changes since the 1800s. Books would still be prevalent; however, Dewey would be able to access information and ideas in many different formats. Dewey's (1876) premise of matching the reader with the right material is still prevalent today although the information can also be found in an electronic format. Since the advent of the Internet web browser in the early 1990s, the dissemination of information has changed exponentially. Advances in information and communication technology (ICT) have created an information explosion. In an era increasingly influenced by ICT, the traditional role of the teacher librarian as an information specialist is key (Lance & Loertscher, 2003). Cultivating skills to acquire knowledge becomes the centerpiece of education in the technologically-rich knowledge age (Trilling & Hood, 1999). Illustrating the importance of the teacher librarian's role in developing these skills, national standards for library programs have been adopted and implemented and reiterated in the professional literature

(Asselin, Branch, & Oberg, 2003; Haycock, 2003; Lance & Loertscher, 2003). At the same time, funding for school library programs is decreasing (BCTLA: British Columbia Teacher Librarians Association, 2003; Haycock, 2003).

According to McCracken (2001), teacher librarians support the educational program in relative isolation within a school community, being a department unto themselves without collaborative partners. This isolation could be alleviated by collaborating with other teacher librarians, sharing resources and ideas, through professional development, utilizing computer mediated communication (CMC). ICT provides new avenues and opportunities to engage in collaboration and professional development (Hawkes, 2000; Kozma & Shank, 1999). Although there is research on teacher-student, student-student, and teacher librarian-teacher interactions using CMC (Halthorn & Ingram, 2002; Ohlund, Ho Yu, Jannasch-Pennell, & Digong, 2000), there has been little research on teacher librarians' use of CMC to collaborate with other teacher librarians, to engage in professional development and thus enhance the educational program.

Livin' the Dream

In the fall of 2003, I conducted an exploratory case study, *Teacher Librarians, Technology and Information Literacy: A Case Study Reconceptualizing the Role of the Teacher Librarian in Technology Rich Environment.* I will briefly discuss this exploratory study because the findings of it led me to design and conduct my thesis study. The exploratory study focused on three questions: (a) how teacher librarians

reconceptualize their role in an information and communication technology-rich era; (b) how teacher librarians incorporate information and communication technology into information literacy instruction; and (c) how teacher librarians remain viable in an increasingly changing educational environment. The exploratory study was conducted in the urban school district in which I am also employed as a teacher librarian. I interviewed three teacher librarians working in secondary schools, observed each for a half-day at school, and observed them in an after-school meeting.

The findings suggested these three teacher librarians collaborated with each other and provided leadership in the uses of educational technology. But they appeared to be more than a group of people just working together. Rather, they seemed to be more of a community engaged in their passion of being teacher-librarians. They called themselves **Livin' the Dream**, as explained by Linda:

> I also work collaboratively everyday with other librarians in the district, we have a wonderful group that we call the Livin' the Dream team and they are there they are only an email away if I have a question or a problem that comes up.... Just a million things a day that we exchange back and forth with each other so that's a great way of working collaboratively outside the school. (Linda)

All of the teacher librarians mentioned Livin' the Dream as their best source of professional development. According to Kathy, "Livin' the Dream... that's an online email group of librarians that I guess share ideas and share information and

work to help each other..." The teacher librarians, the Livin' the Dream group, had a collaborative relationship.

The Livin' the Dream title came from a line in a commercial used as an analogy to what these teacher librarians believed their job to be. The commercial is called "Cat Herding" from Electronic Data Systems (EDS) and relates to the company's motto: "In a sense, this is what we do. We bring together information, ideas and technologies." This motto seems to illustrate the teacher librarians' practice and cement the community together.

The Livin' the Dream group reminded me of the notion of a *community of practice*, which is a group of people who share a concern or a passion for something they do and who interact regularly to learn how to do it better (Lave & Wenger, 1991; Wenger, 1998). In the exploratory study, it became evident that there was a practice of sharing among the teacher librarians – sharing resources, ideas, and expertise, similar to the notion of a community of practice.

According to Johnson (2001), "the learning that evolve[s] from these communities is collaborative, in which the collaborative knowledge of the community is greater than any individual knowledge" (p. 34). This was exemplified in the Livin' the Dream teacher librarian group. During interviews the teacher librarians commented on the working relationship within the Livin' the Dream group, exemplified in the following quotations:

> You get questions you can't answer but you have a network to go to find the answer. (Linda)

> We do share, we compare, we relate because we're coming from the same basic place and we don't have to reinvent the wheel. (Kathy)

> We improve on each other's ideas, we share things we've developed, we ask for help. (Marie)

If the teacher librarians function as a community of practice, they can support each other in their changing role in an ICT rich environment. The participants of the exploratory study engaged in a group discussion of ways in which teacher librarians can remain viable in an increasingly changing educational environment. Sentiments of incorporating technology into their teaching practice, assisting teachers with this incorporation, and assisting students with technology learning tools were prevalent in the discussion. "... The business of education stays the same, educating students...the format changes or the way information is being stored, it's the same basic process and its still accessing and evaluating information." (Marie)

The findings of the exploratory study suggested that these teacher librarians were involved in collaboration, leadership, and technology roles in the same manner as described in the current literature and in the nationally developed school library program standards (Asselin, Branch, & Oberg, 2003; Haycock, 2003; Lance & Loertscher, 2003). The findings of the exploratory study suggested that teacher

librarians had integrated ICT throughout their roles, including their information literacy instruction, as was indicated in library monthly reports, observed during visitations and recounted during individual and group interviews. It was further evident from email correspondence, written reports and communications, that the teacher librarians were consistently using technology to communicate with their teachers, emailing lesson ideas, websites, or journal articles to support the curriculum and encourage information literacy. The data also allowed for making inferences about the teacher librarians' beliefs about their roles; they were clearly passionate about their roles as teacher librarians. As the researcher, I aimed to examine the data collected without a personal bias or preconceived notions and to examine the data for the 'surprise' or the 'I hadn't thought of that before' moment. I was not prepared for the passion with which the teacher librarians discussed their role.

The Study

It occurred to me during the exploratory pilot study that perhaps these teacher librarians had retained their positions and had not been affected by program cuts because they had established a practice of collaboration, of sharing. As a result, these teacher librarians were highly visible and had positioned the library programs in their schools as integral components to the educational program. Furthermore, they may not have been affected by the isolation teacher librarians' are reported to experience within a school, being a department unto themselves because of their collaboration.

While the research to date illustrates 'what' the changing role of a teacher librarian is and 'why' it is important, very little research has been conducted into 'how' a teacher librarian fulfils this role. This exploratory study began to explore how the teacher librarians fulfil their role. The study provided some evidence that the teacher librarians were involved in collaboration, leadership, and technology roles, seemingly supported by a group of teacher librarians who collaborated on a daily basis.

This thesis study builds on the findings of the exploratory study and employs a descriptive case study methodology. The purpose of a descriptive case study is to present a description of phenomena within its context (Yin, 2003a, p. 5), describing the work of the teacher librarians as they collaborate together. This thesis investigates the following research questions:

1. Are the teacher librarians of Livin' the Dream a community of practice?
2. How do teacher librarians engage in a community of practice and collaborative activities related to curriculum support and professional development?
3. How does the engagement of teacher librarians in a community of practice support the development of educational programs?

The research questions allow me to apply a set of concepts to a situation to obtain a view of what is happening. This "view" would then imply certain recommendations for the delivery of school library programs. In this regard the research questions can be considered analytical rather than strictly empirical. If the first research question can be answered affirmatively, the remaining two questions can elucidate the

practices that define the teacher librarians as a community of practice. What is the nature of those practices, and how are the practices related to the delivery of school programs?

The study was conducted from September 2004 to February 2005. The case context was a school library program in an urban school district. Six teacher librarians participated in the descriptive case study. Data for the study were gathered from email correspondence of the Livin' the Dream teacher librarian group, documentation such as memos, reports and in school correspondence, and observations of the teacher librarians at meetings and in their work settings.

While there is significant research to indicate that collaboration between teacher librarians and teachers benefits student learning (Lance & Loertscher, 2003), there is little research on how teacher librarians collaborating with fellow teacher librarians support the educational program. Research in this area could indicate how teacher librarians are integral to the educational program and how collaboration within a community of practice may enhance the teacher librarian's role in leadership activities and professional development.

A review of the literature revealed that there is a trend towards the reduction of funding for school libraries (BCTLA, 2003; Haycock, 2003). Such reductions in turn cause a loss of professional support for the educational program. The findings of this study can be shared with the school board to make the case for retaining teacher librarians at present staffing ratios given the contributions to student

learning and curricular enhancement made by teacher librarians. In addition, this study could be shared with teacher librarians in other school districts as an example of how to maintain viable library programs in an increasingly changing educational environment.

Overview of the Thesis

The thesis is organized as follows. Chapter two provides a review of the professional literature and the theoretical perspectives which guided the study. Chapter three provides a rationale for qualitative methodology and the case study approach utilized in this study. A description of the methods, the case context, the description of the setting and participants, data collection, data analysis, and trustworthiness of the study and researcher biases are also presented. Chapter four addresses the first research question: *Are the teacher librarians of Livin' the Dream a community of practice?* Chapter five discusses the second and third research questions *How do teacher librarians engage in a community of practice and collaborative activities related to curriculum support and professional development* and *How does the engagement of teacher librarians in a community of practice support the development of educational programs?*

Chapter six provides a discussion of the findings by drawing on the conceptual framework from chapter two and recently released government documents since the research findings were collected. The limitations of the study and implications for further investigations are also presented with final concluding statements.

Chapter 2
Conceptual Framework

This chapter provides the conceptual background to the thesis and has five sections. The first section reviews literature on teacher librarianship: the changing role of the teacher librarian, information literacy instruction, knowledge management, and the correlation between the work of teacher librarians and student achievement. The next section describes the theoretical perspective guiding the study—communities of practice (CoPs)—and relates this to several related perspectives. The final two sections discuss studies based on the CoP and computer mediated communication and online learning communities.

Review of the Literature on Teacher Librarianship: The Changing Role of the Teacher Librarian

Advances in information and communication technology have, by some descriptions, created an information explosion that has also led to specific changes in the delivery of a school library program, thus the role of the teacher librarian. The focus of the school library program has moved from resources, to students, to creating a community of life-long learners. Students and their learning remain at the core of library programs and shape the role and functions of teacher librarians. Teacher librarians now, however, must also take an expanding role in the teaching of information literacy, where information more and more is dispersed virtually.

Understanding how to access and use information is a skill which is at the core of lifelong learning.

The role of the teacher librarian has evolved from that of the caretaker of the book collection. Kuhlthau (1999) stated that the role of the teacher librarian has changed in the information-age school from that of providing resources and teaching information skills to enabling an inquiry approach to learning, and developing information literacy skills (pp. 11-12). Barron (2000) summarized the evolution of teacher librarians from book distributor to media specialist to technology catalyst to collaborative partner to information literacy advocate (p. 49).

Haycock (2003), in his review of the state of Canadian school libraries, argued the role of the teacher librarian and of the library program needs to be clarified and promoted, and that collaboration, leadership, and professional development were key elements of the role. He concluded that improved resources must be accompanied by what constitutes best practice in a library program. Haycock (2001) reiterated the role statements for teacher librarians from the Association for Teacher Librarianship in Canada and the Canadian Library Association in 1997.

> Professional competencies relate to 'the teacher librarian's knowledge and skill in the areas of curriculum and instruction, collaborative program planning and teaching, information resources, information access, technology, management and research, and the ability to apply these abilities as a basis for providing library and information services...' (p. 3)

Haycock posed many questions regarding dilemmas facing teacher librarians given the current realities of budget and time constraints. He stated that "...stresses on the system cause significant role dilemmas as teacher librarians work to reconcile best practice with current realities" (p. 3). Best practice being the roles of the teacher librarian as illustrated in the professional competency statements of the Association of Teacher Librarian in Canada. A teacher librarian assigned full time to a library for program development is considered best practice versus the current reality. Due to budget shortfalls school libraries are closed at times during the day, as teacher librarians are assigned other duties such as teaching classes, managing library clerical tasks, and coping with a reduction in library book buying budgets.

Branch and Oberg (2001) stated that "the 21st century teacher librarian must be an instructional leader. This means focusing on two key challenges – leadership in a complex organization and information literacy instruction" (p. 9). The suggestion that the teacher librarian assume an instructional leadership role in relation to information literacy correlates with Lowe's suggestion that teacher librarians become members of curriculum leadership teams involved in technology curriculum initiatives. Branch and Oberg also commented that "Our challenge in the 21st century is to use research to inform our practice as quickly as possible" (p. 10). Teacher librarians need to illustrate that teacher librarians and libraries are not an add-on, an extra if there is enough money in the budget, but an integral part of a well-rounded education.

In recent years, international and national standards for school library programs and guidelines for teacher librarians have been published (AASL & AECT: American Association of School Librarians and Association for Educational Communications and Technology, 1998; Asselin, Branch, & Oberg (Eds.), 2003; ATLA & CLA: Association for Teacher-Librarianship in Canada and the Canadian School Library Association, 1997). These reflect emerging roles for teacher librarians in a technologically information-rich era, and stress the increasing importance of linking information literacy with information technology and integrating and preserving the traditional roles of the teacher librarian. Furthermore, a revisioning of school library programs was outlined in *Achieving Information Literacy: Standards for School Library Programs in Canada.* The components are encompassed by the themes of learning centres for lifelong learning, active learning environments, gateways to the world, resource-based teaching and learning and collaborative teaching and learning (Asselin, Branch, & Oberg, 2003, pp. 6-7).

In relation to national standards for school libraries, Latrobe (2001b) and McCracken (2001) studied the document prepared by the AASL and AECT (1998): *Information Power: Building Partnerships for Learning.* Using a survey instrument entitled *Assessing the School Library Media Program*, Latrobe conducted a case study evaluating library programs in one school district by teacher librarians, teachers, and administrators in relation to the recommended national guidelines in *Information Power.* Responses to the survey were reported by calculating the mean of the set of the district schools. The conclusions of the case study could not be generalizable

beyond the district, since implementation strategies of the national guidelines vary from district to district. However, the assessment methods may be adapted to the evaluation of other school library programs. Latrobe did suggest appropriateness of future action on program implementation activities and the role of educational partners in collaboration and participation, educators' expectations and the integration of planning and evaluation. Recommendations for research on implementation activities and the role of collaboration and participation were suggested. Further recommendations regarding expectations and the integration of planning and evaluation are also provided.

The purpose of McCracken's (2001) study was to investigate how teacher librarians implemented their roles as described in *Information Power*. A survey was distributed to a random sample of teacher librarians. Both quantitative and qualitative data were collected. The survey consisted of forty-six statements divided into four categories: instructional consultant, program administration and instructional partner, teacher and information specialist and the use of technology. Statements were rated on two scales: a theoretical and a practical role scale. The questions were designed to determine if the librarians perceived their roles described as important and if they were practicing these roles. The mean was computed for the responses to the survey responses. Two open-ended questions were asked in relation to teacher librarians' changing and expanding their role. All roles were deemed important.

McCracken found that "of the four roles outlined in the *Information Power* document, library media specialists perceived the role of information specialist as the most important role" (p.10). This role links naturally to that of information specialist in a virtual world. One of the purposes of the survey was to "determine if the school library media specialists perceive it important to assume a leadership role in the use of instructional technology" (p. 1).

In her survey, McCracken asked "what barriers do you face as you attempt to expand your role?...Factors included lack of technology especially Internet access, lack of knowledge about how to use technology, and lack of technical support" (p. 17). These barriers could be alleviated by Lowe's (2001) technology team (that it teacher librarians serving as the ICT experts on a curriculum specific team). McCracken's survey did not ask specifically about leadership roles teacher librarians may have undertaken in relation to technology which would have been helpful to illustrate teacher librarians' changing roles and thus how they can lead by example. She did state that "The introduction of technology into the school library media center, accompanied by the rapid advancement and changes in the technology since its introduction, have had a profound impact in the library media specialist. Little research has been done on this topic." (p. 17)

Both Latrobe and McCracken's studies illustrated the emerging importance of collaboration, leadership and technology in teacher librarians' roles. This importance is substantiated by the research compiled by Lance et al (2002). While

Latrobe and McCracken's studies showed the importance of collaboration between teacher librarians and teachers, collaboration between teacher librarians and other teacher librarians was not discussed. McCracken's (2001) study recommended further research into the factors which enable library media specialists to fully implement their roles and suggests more qualitative research on the practices of library media specialists. Latrobe (2001b) suggested further action and research studies on implementation activities and collaboration and participation. Both Latrobe and McCracken's studies illustrated the emerging importance of collaboration, leadership and technology in teacher librarians' roles. This point was substantiated by Lance et al (2000).

Furthermore, Shannon (2002) compiled a literature review on research, reports of practice, essays, and articles since 1998 regarding competencies and preparation of teacher librarians. Shannon found that technology, teaching, collaboration, and leadership have become a focus in guidelines and professional literature.

While there is significant research to indicate that collaboration between teacher librarians and teachers benefits student learning (Lance & Loertscher, 2003; Muronaga & Harada, 1999; Russell, 2002; Small, 2002) there is little research on how teacher librarians collaborating with fellow teacher librarians support an educational program. Research into this collaboration may indicate how teacher librarians are integral to the educational program.

Hartzell (2001) discussed implications for school library programs in relation to school reform initiatives. He provided concrete examples of how the school library program was an educational partner in school reforms and integrated with the school community. As examples, Hartzell described how particular reforms were directly linked to the role of the teacher librarian. The particular reforms involving student empowerment and curriculum reforms, together linked with the themes of curriculum integration, connections beyond classroom and technology, have, in Hartzell's view, implications for the school library program and the teacher librarian's role. Like Haycock (2003), Hartzell stressed the importance of the role of the teacher librarian by merging it with current education reforms and curriculum initiatives.

Johnson (2002) discussed seven critical challenges facing the teacher librarian profession, the most important of which is his reinforcing of Hartzell's (2001) discussion by stressing that a library's program goals should be tied to the larger goals of the educational system. Johnson echoed Lance et al (2000) and Haycock (2003) in that teacher librarians need to collaborate with teachers, be active in teaching information literacy and engage in professional development. Johnson stressed that the core values of a traditional library program remain the same in an information and technology rich environment, including the teaching of high-level thinking skills through information literacy instruction (p. 6).

In university and public libraries, as in public schooling, technology has also affected the role of the librarian. While there is a suggestion of the technical skills required, much of the focus has been on curricular uses. Rice-Livey and Racine (1997) discussed the need for academic librarians to develop technical skills in order to use information and communication technology to its potential; therefore, integrating technology into current practice. Feret and Marcinek (1999) surveyed library experts to research the question "what will be the role of the academic library and what skills will an academic librarian need in the year 2005?" One respondent answered: "We need librarians, who feel comfortable wearing a number of hats. The academic librarian of the 21st century must be a researcher, counsellor, planner, manager, accessor, team member, problem-solver and computer-printer repairman [sic]" (p. 102). Feret and Marcinek echoed similar statements of Rice-Livey and Racine in that "libraries and librarians should be able to adapt themselves as keepers and providers of information, regardless of the form of information" (p. 103). It can be inferred from their work that the curricular focus of information technology is the primary concern of academic librarians.

Teacher librarians and information communication technology (ICT)

Lowe (2001) reflected on the changing role of the teacher librarian in technology as outlined in the *Information Power* document. Lowe stated that in *Information Power*, the "vision of the library media specialist in the information rich society of the future....include[s] four basic categories [roles]: teacher, instructional

partner, information specialist and program administrator" (p. 31). The four roles or categories in *Information Power* provide clear umbrella role titles under which job descriptions can be illustrated. Lowe acknowledged that "Future technology will present a special challenge and opportunity for education. Library media specialists are part of the solution" (p. 30), indicating the information technology instructional skills of the teacher librarian were evident. Lowe specifically discussed the teacher librarian's role as information specialist. She suggested that the successful integration of technology may be facilitated by the technology team, teacher librarians being members of information and technology teams comprised of different curriculum areas (p. 32). The focus here is on the teaching and incorporating of technology. The teams could be curriculum teams at the school or district level and could include leadership opportunities for teacher librarians. As in Haycock's (2001) article, Lowe (2001) reiterates the need for teacher librarians to define their role in the age of technology. "Library media specialists need to do a better job of clearly articulating their roles in preparing students for the information and technology rich workplace of the future" (p. 31).

Yates (1997) supported this idea of a leadership role in a paper presented at the annual conference of the International Association of School Librarians. He warned that if library media specialists do not define themselves in a leadership role with respect to the use of technology they may "disappear from school" (p. 171). Yates believed that teacher librarians involved in a leadership roles profiled themselves in a visible, tangible way.

According to Johnson (2003), teacher librarians were better equipped than others to handle the role of technology advisor and to provide leadership in this position. Johnson (1997) proposed a role entitled "The Virtual Librarian." "The Virtual Librarian" would become involved in such aspects of technology in schools as a network administrator, a staff trainer on computer applications, an electronic information evaluator and selector or a school library website developer (p. 2). While Johnson supported the roles as outlined in *Information Power*, he suggested three additional roles for the Information Age. Johnson (1997), presented three additional roles to those in *Information Power*: Virtual Librarian, Crowsnester and Rabblerouser. Johnson "strongly maintains that the only way we [teacher librarians] will remain viable as a profession is to offer indispensable services no one else ... can or will. The Virtual Librarian, Crowsnester and Rabblerouser deliver such services." (p. 4). The Virtual Librarian can become involved in such aspects of technology in education as "Network administrator, staff trainer on email, electronic information evaluator and selector" (p. 2). Johnson suggested teacher librarians become educational Crowsnesters, "scanning the horizon for educational, technological and societal changes which affect ... students, teachers and communities" (p. 2). Here teacher librarians were capitalizing on their research skills to inform the school community of educational trends. Johnson contended "the most valuable person in a organization is not the one who knows the most, but one who can learn the best and can teach that which is learned to others" (p. 3). A crowsnester could become involved in cutting edge committees, similar to Lowe's

(2001) advice. Johnson's crowsnester teacher librarian could be the liaison on district committees to their home school. The third role that Johnson presented was that of a Rabblerouser. He stated, "rabblerousers must challenge the system and be effective agents of change... The media specialist's role as rabblerouser is not one of critic, but of builder" (p. 4). A rabblerouser can gain a voice in education by being involved in leadership roles and opportunities at the school and district levels. Johnson (1997) suggested including some of the tasks given to a computer teacher or a technician in the teacher librarian role. In a more recent article, Johnson (2003) suggested that teacher librarians become technology advisors and become involved in staff development in the integration of technology. He contended that teacher librarians have the teaching skills and the right attitude toward ICT, understanding not only how to use technology but also for what purposes. Johnson had integrated the teacher librarian's information literacy skills to technology.

The importance of Johnson's (1997, 2003) role for teacher librarians in fostering the use of ICT can be illustrated by Conlon and Simpson's (2003) study of the impact of computers on teaching and learning. One of the obstacles to teachers using technology was the lack of technical skills they possess. This problem can be addressed by staff and curriculum development, areas in which teacher librarians can take a leadership role.

Teacher librarians and information literacy instruction

The term information literacy was coined in 1974 by Paul Zurkowski, the president of the Information Industry Association. Zurkowski (1974) submitted a proposal to the US government in which he described information literates as "people trained in the application of information resources to their work... they have learned techniques and skills for utilizing the wide range of information tools as well as primary source[s] in molding information solutions to their problems" (p. 6). The skills Zurkowski attributed to an information literate person align with Trilling and Hood's (1999) survival skills for the knowledge age.

Information technology, computers, and telecommunications, provide an information rich society and thus a shift from an industrial-based to a knowledge-based society (Trilling & Hood, 1999). Trilling and Hood outlined seven survival skills for the knowledge age: critical thinking and doing, creativity, collaboration, cross cultural understanding, communication, computing, and career and learning self-reliance. Teacher librarians and the school library program are interwoven with these skills and focus on teaching critical thinking and information literacy skills (Asselin, Branch, & Oberg, 2003; AASL & AECT, 1998; Kuhlthau, 1987). Teacher librarians engage in a sense of agency and purpose in teaching the acquired knowledge and skills.

Carrier (2003), in his foreword to *Achieving Information Literacy: Standards for School Library Programs in Canada*, stated, "the school library offers [students] a safe

environment in which to learn and practice information literacy skills." The document further outlined a vision for school libraries in Canada. "The tools for realizing this vision are learning activities designed around information literacy outcomes, active learning environments, access to information sources, and the use of resource-based teaching and learning and collaborative teaching and learning" (Asselin, Branch, & Oberg, 2003, p. 8).

In 1998, the American Association of School Librarians and Association for Educational Communications and Technology (AASL and AECT) stated in *Information Power* that

> Information literacy – the ability to find and use information – is the keystone to lifelong learning. Creating a foundation for lifelong learning is at the heart of the school library media program. Just as the school library media program has moved beyond a room with books to become an active, technology-rich learning environment with an array of information sources, the school library media specialist today focuses on the process of learning rather than dissemination of information. (p. 1)

Information Power linked this role to both information technology and leadership by "call[ing] for [the] library media specialist to be 'a primary leader in the school's use of all kinds of technologies, both instructional and informational, to enhance learning"(p. 54).

Teacher librarians and knowledge management

Todd and Southon (2000) conducted a study conceptualizing knowledge management and identified differences between knowledge management and

information management. In this study, fifty-six library and information professionals participated. Qualitative and quantitative data were collected from a questionnaire and focus group. Librarians in the study made a clear distinction between *knowledge management* and *information management.* Knowledge management emphasized sharing, interpersonal relationships, and intellectual competencies whereas they saw information management as the development of management and infrastructure systems and technical processes for the control and organization of information sources (p. 148). However, embedded in the suggested skills of knowledge managers were information technology skills such as web publishing and computer software skills, and embedded in required understandings of knowledge managers were aspects of technology such as system specifications and application. Todd and Southon illustrated the melding of technical skills with the role of teacher librarian. Knowledge management goes beyond technical processing to the processes by which people create, utilize and share their knowing and develop approaches to organizational effectiveness and improved organizational performance (p. 149). The focus of knowledge management is on the use and value of an individual's knowing and it was expressed, in the findings of the Todd and Southon study, in terms of the accumulated knowing, wisdom, experiences, skills, and competencies within the mind of a person. Therefore, an individual acquires a sense of agency and purpose. The focus was on people; it was a group or collective focus that gave emphasis to the use of knowledge within the organization. For the teacher librarian and the school library program this sharing of knowledge can be

achieved through collaborative relationships, as indicated by Trilling and Hood (1999).

Schultze (2000) conducted an ethnography of knowledge workers. The librarians in the study considered themselves information specialists whose expertise aligned with the content of information rather than the technology (p. 22). This insight supported Todd and Southon's (2000) findings of librarians distinguishing between knowledge management, dealing with information, as opposed to information management, dealing with technical aspects of technology.

Barron (2000) discussed the role of school library media specialists in the knowledge age. He echoed Todd and Southon (2000) and Trilling and Hood (1999) that teacher librarians not only assist in accessing information but also help create knowledge for learning and decision making.

Anklam (2002) recounted the evolution of knowledge management. She commented on how, among other professions, librarians and learning specialists were part of the "first age of knowledge management" since the concept resonated with their work (p. 2). Anklam (2002) discusses collaboration within communities in relation to knowledge management and a "focused mission and [a] set of deliverables" (p. 3).

Correlation between the work of teacher librarians and student achievement

Lance and Loertscher's (2003) collective case studies in nine states and over 3300 schools shows that the existence of strong school library media programs correlates with academic achievement. The studies examined correlations among available data from state reading scores, community characteristics, and school characteristics, and data collected from school library surveys, controlling for school and community differences. The evidence showed a correlation between the active role of a teacher librarian and student achievement in relation to collaboration and leadership two aspects that have been suggested as key elements of a teacher librarian's role by Haycock (2003). Collaboration was defined as a mutually beneficial relationship between two or more people to achieve common goals. According to Lance and Loertscher, a teacher librarian who is a collaborator is one who provides information to the principal and classroom teacher without being asked; plans and teaches collaboratively with classroom colleagues; develops connections that meet the curricular needs of the school; and creates a pro-reading environment. Further, a teacher librarian who exemplifies leadership qualities meets with the principal and other administrators, serves on key committees (management team, standards, curriculum), participates in faculty meetings, and meets with other teacher librarians. Lance and Loertscher found that reading scores tended to rise with the levels of professional staffing in place and when collaboration between the librarians and teachers existed. In order to be included in the research study, data had to be available from an entire state on a school-by-school basis. Available data of state

reading test scores, community characteristics and school characteristics were compiled and applied as control variables to data results. The impact of the library programs on academic achievement could not be explained by other school (teacher-pupil ratio, per pupil spending and characteristics of teachers) or community (poverty, low adult education and race or ethnicity) conditions (Lance & Loertscher 2003, p. 91). The research findings present strong evidence that the findings hold up over time and are generalizable to other states.

Lance, Rodney and Hamilton-Pennell (2000) researched the correlation of school library programs and information literacy in relation to student achievement in Pennsylvania schools. This study concluded that as information and technology resources become more prevalent, school library staff spend more time teaching students and teachers how to access and use information technology (p. 57). There was a correlation between teacher librarians spending time in integrating information literacy skills and managing technology. The study found that an integrated approach to information literacy instruction had a positive effect on academic achievement.

Theoretical Perspective

In his social theory of learning, Wenger's (1998) discusses the formation of communities as being associated with practice. Community means different things to different people in education, in the work place, and in society. The Oxford Dictionary (2005) has among its definitions of community a "group of people

sharing a profession" (p. 174). Among the definitions for 'practice' is the alignment of specific work related activities with particular professions (p. 705). Wenger's notion of Communities of Practice (CoPs) offers a model for understanding knowledge management and the dissemination of information and learning in an organization. Wenger integrated theories of practice, social structure, situated experience, identity, power, subjectivity, collectivity, and meaning within his social learning theory (p.14). Included within these theories are learning communities and organizational learning.

Communities of Practice

Lave and Wenger (1991) theorized that learning is situated in CoPs. They emphasized a shift from the individual as learner to learning as participation in a social world (p. 43). Lave and Wenger contended that learning takes place situated in activity and is defined by what they call "legitimate peripheral participation." This concept provides a way to speak about the relations between newcomers and oldtimers, and about activities, identities, artifacts and communities of knowledge and practice" (p. 29). Lave and Wenger defined a CoP as "a set of relations among persons, activity, and world, over time, in relation with other tangential and overlapping communities of practice" (p. 98).

Wenger (1996, 1998, 2000) further discusses the notion of a CoP as part of a social theory of learning. Wenger's social account of learning integrates the concepts of community, social practice, meaning, and identity, which combine to develop a

framework for thinking about learning as a process of social participation. Wenger (1998) provided fourteen indicators that a CoP has formed, as illustrated in Table 2.1 (p. 30). These characteristics indicate that three dimensions of a CoP are present: mutual engagement, joint enterprise, and shared repertoire (Wenger, 1998, p. 152). Mutual engagement involves the interaction of community members; by being mutually engaged with one another, knowledge is shared. Through negotiation of a joint enterprise, community members define significance, shape enterprise, and react to a larger context. Shared repertoire is a set of resources, routines, or artifacts developed by the CoP, and become a means of negotiating future participation.

Table 2.1: Wenger's CoPs Indicators

Characteristics a CoP has formed
• Sustained mutual relationships, either harmonious or conflictual
• Shared ways of doing things together
• The rapid flow if information and propagation of innovation
• Absence of introductory preambles, as if conversations and interactions were merely a continuation of ongoing process
• Very quick set up of a problem being discussed
• Substantial overlap in participants descriptions of who belongs
• Knowing what others know, what they can do, and how they can contribute to an enterprise
• Mutually defining identities
• The ability to access the appropriateness of actions and products
• Specific tools, representations, and other artifacts
• Local lore, shared stories, inside jokes, knowing laughter
• Jargon and shortcut to communication as well as ease of producing new ones
• Certain styles recognized as displaying membership
• Shared discourse reflecting a certain perspective on the world.

Note. Community of practice indicators are from Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge, UK: Cambridge University Press, pp. 125-126.

Mutual engagement is the act of sharing practice, having daily contact, exchanging information and opinions and being included in a CoP. A negotiation of enterprise involves CoP members individually responding to a situation, with different opinions, yet collectively engaging in a joint enterprise. "It is only as negotiated by the community that conditions, resources, and demands shape the practice" (Wenger, 1998, p. 80). A shared repertoire of a CoP includes ways of doing things, routines, procedures tools, as well as artifacts that have been produced or adapted and have become part of the practice of the CoP.

Wenger (n.d.) identified three **indicators that a community of practice exists**: the domain, the community, and the practice (pp. 1-2). Wenger, McDermott and Snyder (2002) provided a structural model for a CoP which includes these three elements. "The domain creates a common ground and sense of common identity [agency and purpose]...The community creates the social fabric of learning...The practice is a set of frameworks, ideas, tools, information, styles, language, stories, and documents that community members share" (pp. 27 - 29).

Wenger (1998) also defined three **modes of belonging to a CoP**: engagement, imagination, and alignment. Through engagement, communities form by members' involvement in meaningful activities and interactions, in the production of shared artifacts, in community-building conversations, and in the negotiation of new situations (p. 184). Imagination requires the ability to explore, take risks, and create unlikely connections (p. 185). Alignment requires the ability to communicate

purpose, needs, methods, and criteria (p. 186). It is through these modes of belonging that a CoP establishes an identity.

According to Wenger (1998), a CoP establishes meaning to its practice through participation and reification. Participation involves the social aspect of belonging to a CoP and involvement in a shared enterprise, thus providing a source for gaining an identity (pp. 55-56). Reification refers to both the process and a product (p 60). Reification thus refers to a wide range of processes, of engaging in the practice of producing a product. Participation and reification work in concert, one being a requirement of the other.

Wenger, McDermott and Snyder (2002) discussed the development of CoPs in a work place environment. "CoPs are groups of people who share a concern, set of problems or passion about a topic and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (p. 4). These authors illustrated knowledge development within a CoP as cyclical, with the sharing of information flowing through work groups, thus developing a CoP and an atmosphere of learning (p. 19). Therefore, a CoP is continuous and flexible with no clearly defined beginning or end. Wenger and Snyder (2000) describe a CoP as a group who are informally organized with the purpose to build and exchange knowledge, members selected themselves; the group is held together by the passion, commitment and identification with the group's expertise (p. 142).

Related Learning Theories

Community of learners

Rogoff (1994) discussed the concept of a community of learners, based on the idea that learning occurs as individuals participate in shared activities. She distinguished between learning by a one instructor delivery model and learning by a community working together with individuals serving as resources for each other. Rogoff described that in a Mayan community children learn through participation in community activities, collaboratively engaged in a joint endeavour (p. 217). "In communities of learners, students appear to learn how to coordinate with, support, and lead others, to become responsible and organized in their management of their own learning, and to be able to build on their inherent interests to learn in new areas and to sustain motivation to learn" (p. 225).

According to Bielaczyc and Collins (1999), learning takes place through co-construction and negotiation among members of the community, as the language for describing ideas and practices in the community emerged through interaction with different knowledge sources (p. 276). "In a learning communities approach the goal is to foster a culture of learning, where both individuals and the community as a whole are learning how to learn" (p. 273). Members work together to produce artifacts or performances that can be used to further the understanding of the community members (p. 277).

Resnick (1987) commented that effective school programs "involve socially shared intellectual work and are organized around joint accomplishment of tasks, so that elements of skill take on meaning in the context of the whole" (p. 18). Resnick's comments align with Wenger's (1998) "shared intellectual work" of a professional group, working on a common task toward a common goal, sharing an expertise.

According to *Information Power* (AASL & AECT, 1998), the goals of the library program point to the development of a community of learners. It is clear that in the digital information age society, teacher librarians are interconnected in a lifelong quest to understand and meet changing information needs (p. 2). *Information Power* further elaborated that merging current learning and information theories requires new communities that are "not limited by time, place, age, occupation or disciplinary borders but [are] linked by interest, need, and a growing array of telecommunications technology" (p. 3). AASL and AECT identified collaboration as one of the key components of a learning community.

Organizational learning

Brown, Collins and Duguid (1989) argued that knowledge is situated in the participation of the activity, context and culture in which it was developed and used. They discuss learning in context. "People who use tools actively rather than just acquire them by contrast, build an increasingly rich implicit understanding of the world in which they use the tools and of the tools themselves" (p. 33). Brown and

Duguid (2000) discussed organizational learning and CoPs and how practice is essential to understanding work, suggesting that learning is the connection between working and innovation. Brown and Duguid (2000) agreed with Lave and Wenger's (1991) theory of learning which moved away from the isolation of knowledge from practice and developed a view of learning as social construction where knowledge was gained in association with the contexts in which it has meaning (p. 109). Therefore, workplace learning is best understood in terms of the communities that are being formed or joined and personal identities being changed. The central issue in learning is becoming a practitioner, not learning about practice (p. 109). Connecting this with Lave and Wenger's "legitimate peripheral participation," Brown and Duguid asserted that:

> Learners need legitimate access to the periphery of communication – to computer mail, to formal and informal meetings, to telephone conversations, etc and of course to war stories. They pick up invaluable know how – not just information but also manner and technique – from being on the periphery of competent practitioners going about their business. (p. 112)

Riel and Polin (2004) discussed the notion of a learning organization which has overlap with the notion of communities of practice. They described three types of learning communities: task-based, practice-based, and knowledge-based. These learning communities illustrate a hierarchy for learning in an organization. A task-based community is formed for a specific project; a practice-based community is comprised around several tasks involved in a practice; a knowledge-based community accumulates a knowledge base through current use and future users to

improve practice (p. 38). A task-based learning community is often a predetermined number of people and timeline brought together for a specific task (p. 23). A practice-based learning community develops from a profession. Members may be from a broad group of professionals or "as narrow as a team of teachers at a single school who are working to improve the practice of reading instruction on site by meeting, discussing and sharing around practice with new methods and materials" (p. 26). This practiced-based scenario could also be applied to a group of teacher librarians developing a school library program. Riel and Polin referred to Wenger's ideas of reification and participation:

> Reified knowledge is codified and captures. It resides in policies, documents, talk, and even tools themselves.... Participative knowledge, or experiential or lived knowledge, is the wisdom that is actualized through people, their practices and their stories....Both sources of knowledge are critical to the health of the community. (p. 28)

Riel and Polin recognized that there was overlap between the three types of learning communities, intersecting in a learning organization.

Studies of CoPs

The notion of CoPs has been applied to studies focusing on various aspects of education. Gallucci (2003) conducted a multilevel case study to investigate the usefulness of CoPs as a construct for analyzing teachers' responses to reform policies. Sherer, Shea, and Kristensen (2003) discussed CoPs in relation to professional development and how technology facilitated this. Rogers (2000)

conducted a case study of an online workshop, applying Wenger's CoPs framework to the dialogues obtained. Yagamata-Lynch (2001) presented data from a larger multiple case study in which CoPs were used as a metaphor to reflect on the interactions that took place in a teacher professional development program. Wesley and Buysse (2001) discussed reforming professional development to include collaborative reflective inquiry within CoPs. Each of these studies will be discussed in the following paragraphs.

Gallucci (2003) conducted a multilevel case study to investigate the usefulness of CoPs as a construct for analyzing teachers' responses to reform policies. Gallucci applied sociocultural learning theory and Wenger's framework to transactional processes between policy and teaching practice. Gallucci employed Wenger's analysis of learning as it occurred within a CoP in the coding of data by categorizing engagement in teaching practice, opportunities for imagination (to imagine new ideas) and alignment of practice with policy, as well as the characteristics of a CoP. This study provided evidence that CoPs among six elementary school teachers were sites of professional learning and negotiation with respect to reform policies. Gallucci suggested further research was needed to provide educators and policy makers with guidelines for recognizing and strengthening existing CoPs and for designing organizational structures that support their development (p. 21). Gallucci's CoP under study was of similar size to Livin' the Dream and was concerned with professional learning.

Sherer, Shea, and Kristensen (2003) discussed CoPs in relation to professional development and how technology facilitated this. The design of a faculty development portal using Wenger's CoP concepts to facilitate, develop and maintain faculty professional involvement was discussed. These authors recounted the development of Faculty Learning Communities (FLC) among professors from a face-to-face community, to the integration of technology to support the community, and to the establishment of a portal. They aligned the FLC with CoPs by linking Wenger, McDermott and Snyder's (2002) CoP structure, the domain, community and practice, to the FLC. FLC groups consisting of six or seven faculty members were created to focus on improving teaching and learning on campus. Wenger's CoPs codes were adapted to code activities in an internet enhanced CoP (pp. 188-189).

Rogers (2000) conducted a case study of an online workshop. Using participant dialogues, Rogers investigated whether Wenger's (1998) CoP theory could be applied to a virtual learning community. In a case study of 26 participants in an online workshop, Rogers found that Wenger's essential characteristics of CoP, mutual engagement, shared repertoire and joint enterprise were present. Furthermore, Rogers provided a representative analysis of postings received that indicated a CoP existed. Rogers concluded that Wenger's (1998) theory provided a framework for establishing principles necessary for fostering learning communities.

Yagamata-Lynch (2001) recounted a case study which presented data from a multiple case study in which CoPs were used as a metaphor to reflect on the interactions that took place in a teacher professional development program. Yagamata-Lynch contended that "CoPs is a useful tool for identifying and supporting community efforts in order to improve and assist the educational efforts of a group of individuals" (p. 4); however, how data was coded in relation to Wenger's CoP was unclear. Nevertheless, Yagamata-Lynch suggested that in professional development settings, such as universities and school districts, a group of teachers, similar to a group of teacher librarians, could use CoPs as a metaphor for analyzing current practices and for developing strategies for integrating new practices (p. 7).

Wesley and Buysse (2001) discussed reforming professional development to include collaborative reflective inquiry within CoP. Buysse, Sparkman, and Wesley (2003) discussed how in education CoP originated in response to barriers to professional development and the separation of research and practice. One such barrier was the isolated nature of teaching (p. 266). Teacher librarians are particularly isolated within a school as they are not members of a department and are often the only teacher librarian. Buysse, Sparkman, and Wesley concluded that practitioners and researchers should work together to co-construct knowledge as part of a common enterprise rather than through separate endeavours, connecting what we know with what we do (p. 275). Clearly, this was one of my intentions in investigating the Livin' the Dream CoP.

All these case studies applied Wenger's proposed indicators that a CoP exists and found these useful in seeking explanations to the questions posed in the studies . While CoPs have been applied to various areas and individuals in education (Gallucci, 2003; Rogers, 2000; Sherer, Shea & Kristensen, 2003; Wesley & Buysse, 2001; Yagamata-Lynch, 2001), teacher librarians and their work have not, to my knowledge, been studied.

Computer Mediated Communication and Online Learning Communities

Computer mediated communication (CMC)

Computer mediated communication (CMC) refers to individuals interacting by using networked computers. Specialized software is designed to facilitate delayed time or "asynchronous" communication through text-based messaging. The asynchronous feature of CMC enables individuals to connect via the Internet and communicate anytime, from anywhere to any place. Using (CMC) for collaboration provides a way for educators to meet as a group and form a virtual community of learners in which members can engage in individual thinking, sharing opinions and beliefs and provide one another with feedback for professional and personal growth (Ohlund, Ho Yu, Jannasch-Pennell, & Digong, 2000). Teacher librarians can use this technology to connect with other teacher librarians, independent of time and space, creating a CoP (p. 23). The online environment allows for "peripheral

participation" by members (Lave & Wenger, 1991), in which teacher librarians can become familiar with the practice of the CoP.

Hawkes (2000) discussed the use of CMC for collaborative teacher development. He commented that teachers work alone and have rare opportunities to work with their peers (p. 268). This is particularly true for teacher librarians who are not members of a curriculum department within a school where possibilities for interaction exist. The use of CMC for professional development can reduce isolation, provide access to broader sources of information, and encourage collaboration with peers. The purpose of Hawkes' study was to inform the structuring process of CMC for teacher professional development by identifying features of CMC that best facilitated collegial discourse and collaboration. Over a four month period, twenty-eight grade 5 to 8 teachers in 10 suburban Chicago schools participated in the study. A qualitative analysis of interviews was conducted during the project. The findings of the study suggested several guiding structures to integrate CMC into professional development, most importantly, how to facilitate teacher interaction.

Ohlund et al (2000) investigated teacher's attitudes to utilizing CMC. The theoretical framework discussed CMC in terms of providing a medium for educators to engage in collaboration with educators at a distance. In this study, it was hypothesized that Internet based communication provided unique features and an environment that could be conducive to the development of a collaborative

community of learners. CMC provided a medium for establishing a virtual community in which members could engage in individual thinking, share opinions and beliefs and provide feedback for professional and personal growth (p. 418). One hundred and sixty one kindergarten to grade 12 teachers across the state participated in the study. Two instruments were used: a stages of concern instrument called Attitudes towards the internet (ATI) and a performance test developed by the research team to measure internet skills learned. It was found that the use of CMC encouraged the completion of tasks and collaboration. Thus, the advantages of teacher librarians using CMC to collaborate with each other.

Online learning communities

With the development of advanced technology, allowing for the development of online communication environments, Kozma and Schank (1998) maintain that teachers need to continue to work with colleagues and other professionals to coordinate resources and services (p. 22). Teacher librarians usually collaborate with teachers and students, yet they work in isolation within their school as information specialists, not being a member of a department team. As collaborative technologies become more available, online professional development may become a possibility. Teacher librarians can use this technology to connect with other teacher librarians, independent of time and space, potentially creating a CoP (p. 23). The online environment also allows for various levels of peripheral participation (Lave &

Wenger, 1991) in which teacher librarians can become familiar with teacher librarian practice and comfortable with the online environments.

Shumar and Renninger (2002) discussed ways in which the Internet can be used to build virtual communities by individuals and groups, and compared and contrasted physical and virtual communities, linking them together.

> In the physical world, context tends to ground a person in one reality (view of the past, sense of self, ideas of group etc.) In contrast to the physical world, the lack of context in the virtual world enables imagination, identity, and the kind of valuing that deepens interest and enables knowledge building. (p. 14)

The boundaries between the physical and virtual worlds become indistinguishable as interaction continues in both environments. The blending of the physical and virtual communities aligns with alleviating McDermott's (2000) concern that communities need to have plenty of contact, both on and off line for a community to form.

Schlager, Fusco, and Schank (2002) provided an overview of an online CoP environment for educators. "On the surface the characterization of CoP as a relatively small groups of people in a single work place appears inconsistent with the goal of supporting large numbers of teachers engaged in learning new practices across grade levels, subjects, and organizations" (p. 131). But, the authors believed the two can be quite compatible with members of a professional CoP coming from a larger network of colleagues, spanning multiple organizations (p. 131). However,

Schlager et al. also argued that traditional Internet tools are not designed to support the discourse and collaboration characteristic of professional practice (p. 152).

> It is not that Web sites or discussion boards are inappropriate or unnecessary; they are simply insufficient to achieve the desired objectives of ongoing professional discourse – a list serve or newsgroup, no matter how well trafficked, is not a CoP. (p. 152)

Therefore, CMC provides opportunities for collaboration by providing an online environment through which to work cooperatively and share information.

Conclusion

The foregoing review of the literature indicates the changing role of teacher librarians in a technology-rich environment. While the traditional role of information specialist remains, this role is transforming to that of knowledge manager. Technology, among other things, is changing the role of both the teacher librarian and the school library program.

There are some gaps in the research. Shannon (2002) concluded that competencies of the school library media specialist have been researched largely in descriptive studies based primarily on perceptions and attitudes. Neuman (2003) commented that the various roles of the teacher librarian take on new dimensions each time education shifts its perspectives and priorities. She posed questions such as "how does the library media specialist add value, as an information specialist, in a technology rich environment?" Neuman's question cannot be answered empirically, with an evaluation instrument. Her question involves a more analytical approach,

viewing what is happening through a different lens. This focus illustrates a shift from an individualistic, instrumental view of learning to a social, ecological view of learning.

According to Wenger (2000), since CoPs are *informal* in nature, they have remained largely invisible within organizations (pp. 4-5). Such is the case for teacher librarians who support the educational program in relative isolation within a school. However, according to Wenger, CoPs do not exist in isolation but are affected by their external connections, both inside and outside the organization (p. 11). While teacher librarians appear isolated, the connections they make with other teacher librarians enhance the educational program of the school.

To investigate further, Wenger's perspective was used to view a case. A descriptive case study method was applied to study the work of the Livin' the Dream group of teacher librarians in order to investigate the following questions:

1. Are the teacher librarians of Livin' the Dream a CoP?
2. How do teacher librarians engage in a CoP and collaborative activities related to curriculum support and professional development?
3. How does the engagement of teacher librarians in a CoP support the development of educational programs?

The study aimed to describe how teacher librarians engaged in a CoP provide curriculum support to the school and professional development to each other, and how this interaction supports the development of educational programs. This will allow for an investigation into the implications of a teacher librarian CoP.

The analytic task is to test the viewpoint. If the first research question can be answered affirmatively, the remaining two questions can elucidate the practices that define the teacher librarians as a community of practice. What is the nature of those practices, and how are the practices related to the delivery of school programs?

The next chapter will outline the methods applied to this study, describing the case selection, description of the setting and participants, and the data collection and data analysis methods.

Chapter 3
Methodology

This thesis reports a case study of a group of teacher librarians which, I hypothesize, is a community of practice (CoP). The teacher librarians call themselves "Livin' the Dream." The study took place from September 2004 to February 2005 in a suburban school district in Western Canada. Data collected included emails contributed to an online discussion environment, notes from site visits at the teacher librarians' places of work, notes from several of their meetings and school district meetings they attended, and documents.

The organization of this chapter is as follows. The first section provides the rationale for my choice of research method and introduces the analytical methods. This is followed by a section that describes the setting and participants, as well as my own role and relationship to the participants. The third section provides an overview and description of the data collected and analytical methods used: *content analysis* and *conversation analysis*. As will be explained in more detail later, both of these analytical methods are needed for establishing whether the teacher librarians of Livin' the Dream constitute a CoP. The origins of the coding schemes are also explained. The next two sections explain the analysis of the research questions, the coding scheme, how and why I modified them, and provide examples of the coding process. The

final section discusses issues of rigor and the limitations inherent in the methods I have chosen.

Rationale for Methodology

For convenience, the research questions are restated:

1. Are the teacher librarians of Livin' the Dream a community of practice?
2. How do teacher librarians engage in a community of practice and collaborative activities related to curriculum support and professional development?
3. How does the engagement of teacher librarians in a community of practice support the development of educational programs?

If the first research question can be answered affirmatively, the remaining two can reveal the practices that define the teacher librarians as a community of practice in more detail. The research questions have arisen from my own experience as a teacher librarian in the Livin' the Dream group. I wished to remove myself from the group to examine it as a social and educational phenomenon.

Choosing a methodology

What methodological options are there for a study of the above research questions? Qualitative research involves an interpretative, naturalistic approach to the phenomena under study; the researcher studies things in their natural settings to make sense of the phenomena in terms of the meanings people bring to them (Lincoln & Guba, 2000). One of the advantages of qualitative research is that it often uses a narrative form (as opposed to statistical) which is easily readable and

relevant to educators. A qualitative approach in educational research is therefore appropriate for answering types of questions such as "What is happening in a social action that takes place in this particular setting?" (Erickson, 1986, p. 121). A further example would be: "What educational benefits correlate with the engagement of teacher librarians in a community of practice"? It is, as expressed by Erickson (1986), the "invisibility of everyday life" (p. 121) that sometimes requires research. In other words, everyday life (e.g. in a school library program) may seem ordinary and familiar, that the very essence of what's happening there may be overlooked without close analysis of ordinary data (e.g. the work of the teacher librarians).

Possible qualitative methods to use for investigation include action research, ethnography, and case study. An action research method is used by a practitioner who wishes to study his or her own workplace practice for the purpose of improving it in some way. The practitioner does not necessarily have a goal to publish the findings in scholarly journals, and as a result in action research analytical methods are used that require less training and pay less attention to the transferability of the findings. Frequently, practitioners work in a team, and use cycles consisting of planning for action, implementation of action, and evaluation of outcomes. Data are collected to inform each step in the cycle (Gall, Gall & Borg, 1999). While I was interested in studying a workplace with which I was familiar, I was not interested in studying the existing practice for the purpose of improving it. I was interested in documenting the work of teacher librarians in a way that would inform thinking

about teacher librarianship and policy-making beyond the context in which I studied it. Therefore, action research was not an appropriate method for this study.

Ethnography does not have these limitations, and is in principle a suitable method for documenting the work of teacher librarians. Ethnography is a study of the culture in which practices occur, and usually requires "living in the culture." Ethnographers spend much time on site to document activities, to which they also contribute. In a school an ethnographer might attend community events to obtain a deeper knowledge of the context in which the phenomena of interest occurs. However, because as a member of the Livin' the Dream group for many years, I had considerable—but undocumented—knowledge of the work of teacher librarians, a more focused approach to data collection seemed appropriate. Further, as a full-time teacher librarian, only an ethnography of my own practice, situated in the Livin' the Dream group, would have been feasible in terms of the required on-site time. Such a study, however, would have been more autobiographical than the one I envisaged. Instead, I sought to understand existing phenomena without—to the extent possible—disturbing them. Thus, the research design I chose for this study was a case study.

A case study is an in-depth, field-based study in search of meaning behind a specific phenomenon (set of processes, events, individuals or other units of interest). A variety of definitions of case study have been articulated by researchers. According to Yin (2003a), case study research is the best method when the

phenomenon studied is not distinguishable from its context. As the practice of teacher librarians is integrated into the support of the educational program, this practice can be indistinguishable from within the context of the learning environment. Yin (2003a) further defined three forms of case study: *exploratory*, which seeks to define the questions and hypothesis of a previous study and attempts to discover theory by examining social phenomenon; *descriptive*, which presents a description of a phenomenon within its context; and *explanatory* which presents data bearing on cause and effect relationships. Stake (2000) also defined three types of case study: *intrinsic*, which conducts research for its own sake because of a specific interest in one case, such as the teacher librarian practice; *instrumental*, which examines a specific case to provide insight into an issue or theory, and researches one or more situations to try and understand an outside concern; and *collective*, which conducts an instrumental study of several cases (p. 437). Both Yin's descriptive case study and Stake's intrinsic case study framed the design of the thesis study.

According to Stake (1995), a "case" is an integrated system, such as the Livin' the Dream group within the school library program, and a case study is the study of that system. It is the study of the particularity and complexity of a single case, coming to understand its activity within important circumstances (Stake, p. xi). According to Merriam (1998), the interest involved in the case study is in the discovery process and the context. In this research, the parameters of the case study are established by the interactions of the Livin' the Dream group and the activities in which the members collaboratively engage.

While case studies can be quantitative, in education they are more likely to be qualitative (Merriam, 1998, p. 19). As cited by Merriam, Kenny and Grotelueschen (1980) believe a case study is best when evaluating a program.

> Case study can be an important approach when the future of a program is contingent upon an evaluation being performed and there are no reasonable indicators of programmatic success which can be formulated in terms of behavioral objectives or individual differences. (p. 39)

The design of this research was a descriptive case study which investigated a group of teacher librarians to gather information to the questions under study.

Analytical methods: content analysis and conversation analysis

Wenger, McDermott, and Snyder (2002) described communities of practice as "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (p. 4). Investigating the first research question, whether a CoP exists, requires examining the quality and content of what teacher librarians do. For example, is there evidence that they have "passion about a topic" in the quality of their work? Such questions were addressed by conducting a **content analysis**. This type of analysis is used for discovering and describing the focus of an individual, group, institutional or social interaction (Weber, 1990), such as a group of teacher librarians focusing on school library program development. Content analysis originated in positivist methodology; however, it has been applied to qualitative

research (Miles & Huberman, 1994). Stemler (2001) and Coffey and Atkinson (1996) suggested that codes can be developed from a theoretical framework, in this case Wenger's community of practice theory, prior to coding data. According to Ryan and Bernard (2000), it is assumed that when a researcher applies content analysis the codes of interest have already been discovered and tested (p. 785).

Content analysis by itself, however, is insufficient for answering research question one. To examine whether the teacher librarians can be called a "community," we need to go beyond their individual commitment to the work of teacher librarians and examine how they interacted with each other. Interactions, particularly informal interactions (i.e., interactions that are not scripted), are central to the notion of a CoP (Wenger, 1998, p. 7). In fact, I suggest that this aspect makes the CoP a promising framework for bringing the hidden aspects of the work of teacher librarians to the foreground. In this study, **conversation analysis** was used to examine the interactive qualities of the email exchanges. Harvey Sacks initiated conversation analysis (Silverman, 1998, p. 23) to investigate dialogue in communication. Conversation analysis investigates the dominant sequential patterns of communication. This is done by studying the overall structure of spoken interaction and sequence organization of conversation (Stenstrom, 1994). Originally conversation analysis was applied to analyze transcriptions from tape recorded conversations. Following suggestions for analysis of email communication by Negretti (1999) and Neuage (2004), I modified Stenstrom's, (1994) coding for spoken interaction to email exchanges, which are not always two-way

communications. Taken together, the content and conversation analyses can be expected to provide a coherent picture of the work of teacher librarians that can answer the first research question.

Case Context: Description of the Setting and Participants

According to Stake (2000), in case study research, researchers choose their cases (p. 446). The context of this research was the Livin' the Dream group. The teacher librarians who were members of this group were from six secondary school libraries in a suburban school district in Western Canada. The participants for this study were not selected at random. All participants of the Livin' the Dream group were invited to participate in this study via email. At the time of the investigation, the school district operated seven secondary schools and an alternative high school. Enrolments at each of these seven schools ranged from 780 to 1500 students. Taking elementary schools into account, the total student population of the school district was approximately 18, 500 students.

As mentioned in Chapter 1, the teacher librarians called themselves Livin' the Dream after a line in a commercial that provided an analogy to what they believed to be the nature of their jobs. The commercial is called "Cat Herding" and relates to the company motto: "In a sense, this is what we do. We bring together information, ideas and technologies." These teacher librarians were contacted primarily as a result of their participation in the case study I conducted in 2003, my working relationship

as a researcher with these teacher librarians, and the teacher librarians' interest in supporting the research. Four of the teacher librarians had degrees or diplomas in teacher librarianship; two had no background in teacher librarianship. Therefore, their years of experience as teacher librarians offered some variety in terms of practical knowledge. All the teacher librarians were assigned to their school's library full-time and had library clerical assistance, thus allowing time for program development.

The group's main mode of communication was email in a FirstClass® environment. FirstClass is an Open Text Corporation product. It was used throughout the school district for communication; it provided an integrated and secure collaborative environment which allows the teacher librarians to post documents, participate in threaded discussions, and share information. All content was stored on the school district server and therefore could be archived for future reference.

Prior to the study, I was a member of the Livin' the Dream teacher librarian group and participated in their email exchanges. I consciously withdrew my participation from the group's online discussion environment for the duration of the study to distance myself and thus allow for direct observation of conversations in which I did not take part. In face-to-face settings such as group meetings it was more difficult to distance myself from other members, and at such meetings I assumed a role of "participant observer." My main focus was to obtain a record of

these meetings, but I also contributed to the group's activities. The inability to separate the context from the phenomena under investigation is acknowledged in literature on qualitative research (Angrosina & de Perez, 2000). Combining participant observation with other data collection can improve reliability of the findings (Adler & Adler, 1998). Different methods address the issue in varying ways. As a "participant observer" I was able to witness the participants interacting with other educators not part of the study.

In accordance with Simon Fraser University's ethical conduct policy for research, the participants in this study were fully informed about the nature of the study and signed an informed consent form. Written consent was also obtained from administrative personnel of the district involved. As per university regulations, the original Ethics Approval Letter is filed in the library. A copy of this letter and the informed consent form is included in Appendix A. The names of the participating teacher librarians are referred to in this document by pseudonyms rather than real names. Pseudonyms were also assigned to persons to whom the participants referred.

Overview of Data Collection and Analysis

This section provides an overview of the data collection and analysis. Table 3.1 summarizes the data types (direct observations, participant observations, and documents), and the specific data collected for each type. Following the table, I elaborate briefly on each data type.

Table 3.1: Data Collected

Data type	Data collected	Source of evidence
Direct observations	Livin' the Dream email communications	FirstClass server
	Livin' the Dream email conversations	FirstClass server
	School library visits	Field notes journal
	District curriculum leadership meetings	Field notes journal
	District computer contact meetings	Field notes journal
Participant observations	Livin' the Dream meetings	Field notes journal
	District teacher librarian meetings	Field notes journal
Documents	Email attachments	FirstClass server
	Documents collected during observations	Document notations

Direct observations

These were made during site visits and school district meetings. However, because much of the work of the teacher librarians was located in their email communications, I conceptualize these as direct observations as well, following a suggestion by Bianco and Carr-Chellman (2002). Other direct observations were made during site visits to the teacher librarian's places of work.

Participant observations

These occurred at school district meetings and Livin' the Dream dinner meetings. I recorded field notes of the discussions which Livin' the Dream teacher librarians were involved. The discussions included upcoming district events, library administration procedures, or new resource recommendations. The district meetings were attended by all teacher librarians (elementary and secondary), and district library staff and a public librarian. At these meetings, I was often unintentionally drawn

into discussions by educators not part of the research study. Although this method of observation lacks the rigor of more structured observations or multiple observations, if combined with other methods it can produce great rigor (Adler & Adler, 1998). Adler and Adler considered observations of participants and their settings a source of 'hard evidence' (p. 382). Therefore, participant observations combined with direct observations and analysis of documents can enhance validity.

Documents

According to Yin (2003b), documents are most useful in corroborating evidence from other sources (p. 87). In this study, internal documents such as reports, communications and lesson plans were collected. Hodder (2000) asserted that artifacts are produced and exchanged in the construct of social relationships (p. 706) such as the relationships between the teacher librarians. If a document was attached to an email communication between the teacher librarians in the Livin' the Dream it was considered as a document for the analysis. Bianco and Carr-Chellman (2002) stated that in online environments many types of information are presented in written text; therefore a distinction needs to be made regarding the intent of written text, for example, is it a conversation or a document (p. 257). As recommended by Bianco and Carr-Chellman, attachments to email communications were considered documents. These were stored electronically; hard copies were also stored in a binder designated for documents, together with documents collected at meetings and during observation visitations.

Data analysis

The thesis focuses on the email exchanges. Both content analysis and conversation analysis were applied to these to answer the first research question, and content analysis was applied to answer the second and third research questions. The remaining data were used to check inferences based on these analyses. Because content analysis was applied in addressing all three research questions, an overview of the *major codes* used for each research question is provided in Table 3.2. These codes are based on Wenger's (n.d.) indicators that a CoP exists (domain, community and practice), as well as his modes of belonging to a CoP (engagement, imagination, and alignment).

Table 3.2: Definition of Major Content Analysis Codes

Code	Research Question	Definition
Domain	1	the domain of knowledge which defines a set of issues
Community	1	a community of people who care about the domain
Practice	1	the shared practice that they are developing to be effective in their domain
Engagement	2	shared histories of learning, relationships, interactions, practices
Imagination	2, 3	images of possibilities, of the world, of the past and future, of ourselves
Alignment	3	discourses, coordinating enterprises, styles, complexity, compliance

Note. Codes developed from Wenger (n.d.), Wenger (1998), and Wenger, McDermott, and Snyder (2002).

A conversation analysis was conducted to determine the communication structure of the working and personal relationships of the teacher librarians. This analysis was expected to corroborate with the content analysis that a CoP exists by providing evidence of conversation patterns.

The next two sections describe the coding in more detail. It is useful to separate the first research question from the other two because it must be answered first and it is the only research question that requires conversation analysis.

Analysis of Research Question One

In the following section I explain the content and conversation analysis of the first research question (*Are the teacher librarians of Livin' the Dream a community of practice?*) by describing the subcodes and the coding process.

Content Analysis: Description of Subcodes

Consider first Wenger's indicators that a CoP exists (the first three major codes in Table 3.2); these codes are relevant to the first research question. Gallucci (2003) conducted a study in which she identified a group of teachers as a CoP by applying Wenger's (1998) characteristics a CoP has formed (see Chapter 2, Table 2.1, p. 30). I modified Gallucci's coding by combining Wenger's (n.d.) indicators a CoP exists as the *major codes*: domain, community and practice. These major codes were applied to email communication data collected in May and June prior to the designated study period. However, these did not make possible sufficient delineation of the content; therefore I developed *subcodes* to facilitate finer analysis of the content.

The subcodes were derived from several sources. The first three subcodes were Wenger's (1998) dimensions of a CoP: mutual engagement, joint enterprise, and shared repertoire (p. 72). According to Wenger, these dimensions are sources of coherence in a CoP. Mutual engagement includes dimensions of engaged diversity, doing things together, relationships, social complexity, community, and maintenance (Wenger, 1998, p. 73). Joint enterprise includes dimensions of negotiated enterprise, mutual accountability, interpretations, rhythms and local response (Wenger, 1998, p. 73). Shared repertoire includes dimensions of stories, styles, artifacts, tools, actions, historical events, discourses, and concepts (Wenger, 1998, p. 73). Evidence of these three dimensions therefore confirms Wenger's indicators that a CoP has formed. In addition, I drew four subcodes from examples of dialogue illustrating CoP activities provided by Wenger (n.d.): discussing developments, requests for information, reusing assets, and seeking experience. These subcodes illustrate the presence of activities characteristic of a CoP. In summary, a total of seven subcodes were introduced to answer research question 1. Each of these subcodes is described in Table 3.3.

Table 3.3: Subcodes for Wenger's Indicators that a Community of Practice Exists

Subcode	Description
mutual engagement	Sustained mutual relationships, either harmonious or conflictual. Mutually defining identities. Substantial overlap in participants descriptions of who belongs.
joint enterprise	Shared ways of doing things together. The rapid flow of information and propagation of innovation. Knowing what others know, what they can do, and how they can contribute to an enterprise.
shared repertoire	Shared discourse reflecting a certain perspective on the world. Specific tools, representations, and other artifacts. Local lore, shared stories, inside jokes, knowing laughter. Jargon and shortcut to communication as well as ease of producing new ones. Certain styles recognized as displaying membership.
discussing developments	Shared ways of doing things together.
requests for information	Knowing what others know, what they can do, and how they can contribute to an enterprise.
reusing assets	Specific tools, representations, and other artifacts.
seeking experiences	Very quick set up of a problem being discussed. Absence of introductory preambles, as if conversations and interactions were merely a continuation of ongoing process.

Note. Codes adapted from Gallucci, C. (2003). *Theorizing about teachers' response to reform: The role of communities of practice. An occasional paper.* Seattle, WA: Center for the Study of Teaching and Policy, University of Washington. (ERIC Document Reproduction Service No. ED480033; Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity.* Cambridge, UK: Cambridge University Press

Coding process

The data were transferred into ATLAS.ti™ (Muhr, Thomas, 2004), software used for qualitative analysis. According to Stemler (2001), three kinds of units are employed in content analysis: sampling units, context units, and recording data (p. 4). Words, sentences, or paragraphs within email communication were identified as sampling units for analysis to which coding was applied. The data were initially

sorted using the general major codes (i.e., domain, community, practice). These were further coded using the subcodes explained in Table 3.4 (i.e. mutual engagement, joint enterprise, shared repertoire, discussing developments, requesting information, reusing assets, and seeking experience).

The content of the following email message provides an example of the coding I applied. On October 14, 2004, Laura posted the following message which was assigned the major code *practice,* the practice being the book circulation procedure Laura had been using for six months. It is also an instance of the subcode *resusing assets* because Laura had adopted Linda and Marie's "idea to let students have library books for 3 week versus 2 weeks".

> Hi Linda and Marie, It's almost been 6 months since I've used your idea to let students have library books for 3 weeks versus 2 weeks. My overdue list is way smaller than it used to be, and it makes my job that much more efficient. Thanks for the super idea.

In the following quote, Kathy responded to Laura's message by first repeating the original message, and then in saying that she has also adopted Marie and Linda's practice by "doing the same thing," thus providing evidence of subcode *shared repertoire.* This conversation is an example of not simple *reusing an asset*, but a practice that has become a routine in their *shared repertoire.*

> Laura writes: Hi Linda and Marie, It's almost been 6 months since I've used your idea to let students have library books for 3 weeks versus 2 weeks. My overdue list is way smaller than it used to be, and it makes

> my job that much more efficient. Thanks for the super idea. We've been doing the same thing and have also had great success! I only change my due date cards once or twice a week (depending how busy we are) and find that this also makes tracking the overdues easier.

Kathy's response also illustrates the difficulty of coding in an asynchronous environment since participants have the option of repeating all or part of the previous message. While this may present some difficulty in recognizing the new message, the repeat message is highlighted or in italics for identification. I chose to keep the repeated message in the data transfer for consistency.

This following email provides another example of the subcoding of content in the *discussing of the developments* of "Internet Safety lesson[s]" curriculum which Linda posted. This example also shows the *reusing of assets* in that Linda was using a unit that Kathy had developed:

> I started the Internet Safety lessons with the gr. 8s this week and am using the lesson plans from the new district Internet curriculum book (thanks Kathy and Tracey). It's going very well. The hook I used was the newspaper article from The Province newspaper in June about the cyberstalker who took over the teenaged girl's computer. We did the personal code of conduct exercise and the kids came up with great answers. Thanks for being a constant and terrific source of inspiration!

Kathy responded by first repeating Linda's message then *sharing* the *repertoire* she added to the lesson:

> Linda writes: I started the Internet Safety lessons with the gr. 8s this week and am using the lesson plans from the new Web in the Classroom book (thanks Kathy and Tracey). It's going very well. I'm so glad it's a success. I've done it with three CAPP 8 classes so far and have also had good results. The hook I used was the newspaper article from The Province newspaper in June about the cyberstalker who took over the teenaged girl's computer. I used one about a orthodontist - it seems there are articles in the paper just about every week. Scary! We did the personal code of conduct exercise and the kids came up with great answers.

Conversation Analysis: Description of Codes

Conversation analysis allows for investigation of the dynamics of online communication. The underpinnings of conversation analysis, sequential organization and turn-taking, are useful in reading email conversation; however, the online environment demands adaptations to conversation analysis protocol in order to enable analysis of conversational relations in de-threaded sequences. Stenstrom (1994) synthesized models of conversation analysis and thus adapted a model for coding spoken interaction. Stenstrom described five levels of spoken interaction: *transaction, exchange, turn, move, and act.* According to Mazur (2004), modifications to traditional conversation analysis conventions are required for analysis of online conversations.

I modified the coding developed by Stenstrom (1994) for this study. The isolation of an exchange between a pair of speakers is difficult when more than two

people are contributing to the conversation, not necessarily in sequential order. In the Livin' the Dream online discussion, exchanges of conversation between two speakers were not recorded as the isolation of pairs in an asynchronous environment is difficult. Following a suggestion by Mazur (2004) and Silverman (2000), sequences of related text were identified by grouping emails by their subject line. These groupings were then identified as *transactions* and were the unit of analysis in the conversation analysis. Turn taking takes place as it would in face-to-face conversation. In email communications postings with the same subject are complete turns. Turn taking is influenced by the context of the interaction, including the immediately preceding talk, topic, speakers and time, thus influencing the type of move a speaker engages and the subsequent intended act. Refer to Table 3.4 for an explanation of major conversation analysis interaction codes.

Table 3.4: Definition of Major Conversation Analysis Codes

CA code	Interaction explanations
Transaction	consists of one or more turns dealing with one single topic
Turn	is everything a current speaker says before the next speaker takes over, it consists of one or more moves
Move	is what the speaker does in a turn in order to start, carry on and finish, ie the way s/he interacts/it consists of one or more acts
Act	signals what the speaker intends, what s/he wants to communicate

Note. Adapted from Stenstrom, A. B. (1994). *An introduction to social interaction.* London, U.K.: Longman.

Transactions and turns are easily distinguishable in an asynchronous online environment by examining email subject lines for transactions and email to/from lines for turns. A move is a verbal action which 'moves' the conversation forward.

An act is a signal for what the speaker wishes to communicate, such as asking a question, making a statement or confirming information.

To identify types of moves and acts, subcodes were needed. A primary act can initiate a communication move. A secondary act can accompany and sometimes replaces a primary act. A complementary act accompanies, but rarely replaces a primary act. Table 3.5 lists the conversation analysis subcodes developed identified by Stenstrom (1994), with the addition of one primary act *answer with restated question.* This subcode will assist in the coding of the email communication when the previous message has been restated. To save space, the subcodes for each major code have been arranged in two columns in the table.

Table 3.5: Subcodes for Conversation Analysis

Code	Subcodes	
Moves	Backchannel	Reopen
	Focus	Repair
	Follow-up	Response
	Initiate	Summons
Primary Acts	Accept	Inform
	Acknowledge	Invite
	Agree	Object
	Alert	Offer
	Answer comply	Opinion
	Answer disclaim	Query
	Answer evade	Question confirmation
	Answer imply	Question identify
	Answer supply	Question information
	Answer with restated question	Question polarity
	Apology	React
	Call off	Reject
	Check	Reply
	Closer	Request action
	Confirm	Request permission
	Disagree	Smoother
	Evaluate	Statement
	Greeting	Thanks
Secondary Acts	Clue	Justify
	Emphasizer	Metacomment
	Expand	Precursor
		Preface
Complementary Acts	Appealer	Hedge
	Booster	Monitor
	Empathizer	Staller
	Filler	Starter
		Uptake

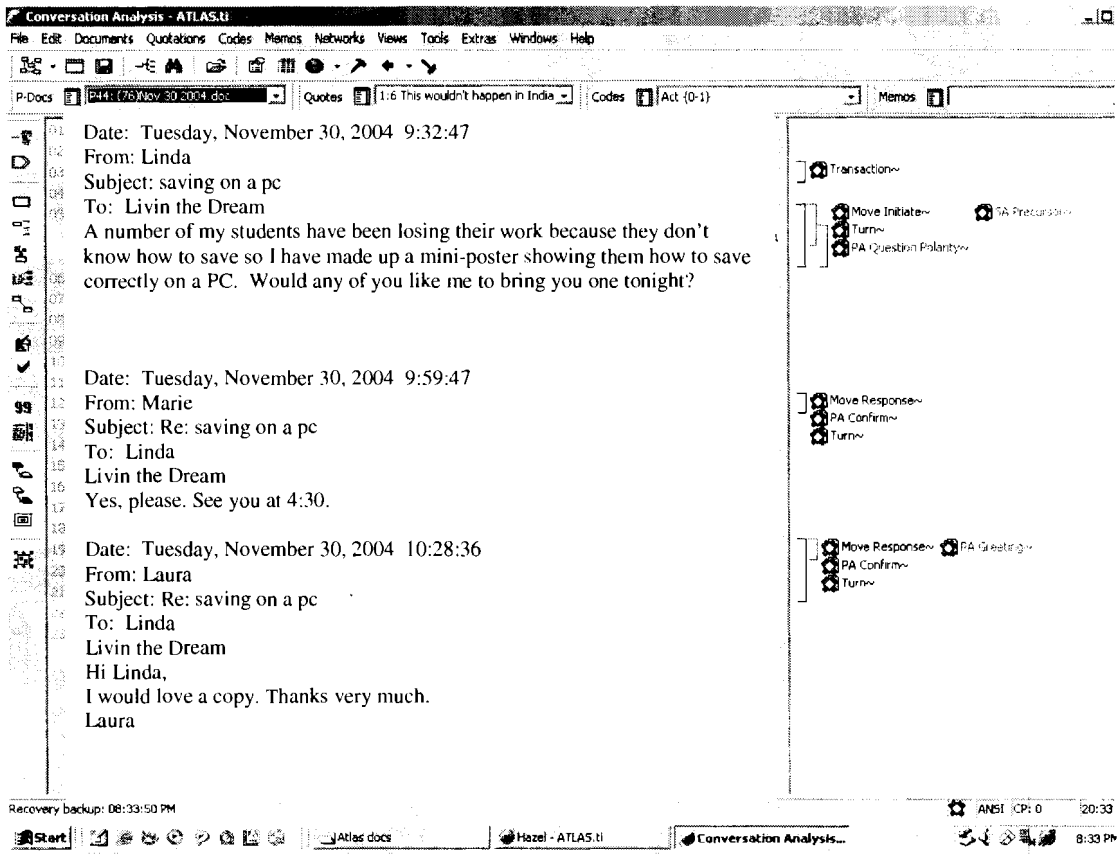
Note. Adapted from Stenstrom, A. B. (1994). *An introduction to social interaction.* London, U.K.: Longman.

Coding process

The data were transferred into ATLAS.ti™ (Muhr, Thomas, 2004). A sampling unit was a conversation, identified as a transaction, by grouping email subject lines. The conversation analysis codes were established during trial coding in May and June 2004. To identify the different types of moves and acts of conversation interactions subcodes were assigned to words, sentences or paragraphs within the email communication.

Figure 3.1 provides an example of a conversation analysis of an email communication. The transaction is identified by the grouping together of the subjects of an email by the subject line, "saving in a pc." I applied the code *transaction* to the subject line of the emails "saving in a pc," thus grouping a conversation together. Each new speaker was assigned a *turn* code. In the first message, Linda is taking a *turn* in speaking in which she initiates a *move* by first providing a secondary act *precursor* to what the email is going to be about, followed by a *polarity question*, ("Would any of you like me to bring you one tonight?") asking for a yes or no answer. In the next two messages, both Marie and Laura then take a *turn*, both providing a *move* in the conversation by *responding* with a primary act of *confirming* that yes, they would like a copy of Linda's document.

Figure 3.1: Example of Conversation Analysis Coding



Note. Data framing from ATLAS.ti. Muhr, Thomas. (2004). User's Manual for ATLAS.ti 5.0, ATLAS.ti Scientific Software Development GmbH, Berlin. Reprinted with permission.

An additional example of a conversation analysis using subcodes is provided in the following email exchange. By the subject lines "Classics," the emails were linked together as a *transaction*. Three *turns* were taken in the conversation by two different speakers. Kathy took a *turn*, by initiating the conversation with an *initiate move* then asking a primary act *question* for *information* "Does anyone have a list of

classics they'd like to share with me." Kathy then adds a secondary act *expanding* on her question, closing with a *thanks* primary act.

> Does anyone have a list of classics they'd be able to share with me? I'd like to add some classic novels to our collection and I'm looking for titles. Thanks in advance!

In Linda's response, she is taking a *turn* in the conversation and was making a *move* in the form of a *response* to Kathy's question stating that she "got rid" of her classics because they never circulated. Linda continues with a primary act, *offering* a suggestion and attaching document examples of a "Pageturners - Books too good to put down" idea she offered.

> I got rid of many of my 'classics' because they never circulated. Why not take a few into the senior English classes and ask the kids what else they would like to read. We do a Pageturners - Books too good to put down with the Gr. 12 English classes each year. If they suggest books we don't have I try to bring copies in. I also produce an annotated list or brochure to pass out in the class and library . See attached samples.

Kathy then took another *turn*, in which she agreed with Linda's suggestion saying "you are amazing" and thanking her. This email also illustrates that being in an asynchronous environment, a difficulty in coding can occur when participants repeat the previous email before responding.

> Linda on Tuesday, January 25, 2005 at 11:22 AM -0800 wrote: I got rid of many of my 'classics' because they never circulated. Why not take a few into the senior english classes and ask the kids what else they would like to read. We do a Pageturners - Books too good to put down with the Gr. 12 English classes each year. If they suggest books we don't have I try to bring copies in. I also produce an annotated list or brochure to pass out in the class and library. See attached samples. You are amazing!!! Thank you.

Research question one regarding if the Livin' the Dream group constituted a CoP was confirmed, the defense of this is discussed in Chapter 4. Therefore, I discuss, in the remainder of this chapter, how I went on to address research questions two and three.

Analysis of Research Questions Two and Three

In the following section I explain the content analysis of the second and third research questions (*How do teacher librarians engage in a community of practice and collaborative activities related to curriculum support and professional development?* and *How does the engagement of teacher librarians in a community of practice support the development of educational programs?*) by describing the subcodes and the coding process.

Content Analysis: Description of Subcodes

I introduced subcodes for Wenger's modes of belonging (engagement, imagination and alignment) for answering research questions 2 and 3. The subcodes

for these codes are shown in Table 3.6. Wenger (1998) describes three modes of belonging to a CoP: engagement, imagination and alignment. In Gallucci's (2003) study she applied Wenger's modes of belonging as engagement in teaching practice, opportunities for imagination, and alignment of practice with policy (p. 27). Again Wenger (1998) and Gallucci (2003) provided the examples that I applied to the present study of a group of teacher librarians; however, I developed subcodes for these major codes. First, subcodes were introduced to capture a variety of ways to *engage* in a teacher librarian CoP: library administration, curriculum support, literature appreciation, and information literacy. These are the components of the school library program as defined by school district guidelines. To the code *imagination* I added the following subcodes: district opportunities, in-school opportunities, and teacher librarian initiated opportunities. Instances of subcodes provide evidence of teacher librarians having opportunities to be exposed to new ideas, to reflect on their practice or explore and try new curricular support ideas, introduced through a district or in-school inservice or discussed at Livin' the Dream meetings. For both engagement and imagination I also used the subcodes based on examples of dialogue indicating activities in a CoP (discussing developments, requests for information, reusing assets, and seeking experience), but as shown in Table 3.6 and 3.7, instantiations of these subcodes were somewhat different for the two codes. For example, for engagement "discussing development" entailed discussions about practice, whereas for imagination it entailed discussions about the development of new ideas.

Table 3.6: Subcodes for Wenger's "Modes of Belonging" Engagement

Subcodes	Description
library administration curriculum support literature appreciation information literacy	One of the ways teacher librarians participate and belong to communities of practice. Involves doing joint tasks, developing relationships and a shared repertoire.
discussing developments requests for information reusing assets seeking experience	Could be meeting; talking; having places to do so; having or giving help; developing and defining competence; devising solutions and meanings; having stories about practice; gossiping; remembering; developing discourses; maintaining continuity over time; and constructing a learning trajectory.

Note. Codes adapted from Gallucci, C. (2003). *Theorizing about teachers' response to reform: The role of communities of practice. An occasional paper.* Seattle, WA: Center for the Study of Teaching and Policy, University of Washington. (ERIC Document Reproduction Service No. ED480033; Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity.* Cambridge, UK: Cambridge University Press.

Table 3.7: Subcodes for Wenger's "Modes of Belonging" Imagination

Subcodes	Description
district opportunities	The materials or resources that enable teacher librarians to adopt other perspectives outside of their bounded practice.
in school opportunities teacher librarian initiated opportunities	Involves orientation to images of what could be (eg. classes, curriculum, resources); explorations of trying new things out (eg. trying out new curriculum, using ideas from an in service); reflection (eg. Retreats, time-off, breaks in rhythm)
discussing developments requests for information reusing assets seeking experience	Involves orientation to images of what could be (eg. classes, curriculum, resources).

Note. Codes adapted from Gallucci, C. (2003). *Theorizing about teachers' response to reform: The role of communities of practice. An occasional paper.* Seattle, WA: Center for the Study of Teaching and Policy, University of Washington. (ERIC Document Reproduction Service No. ED480033; Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity.* Cambridge, UK: Cambridge University Press.

To the major code *alignment*, as shown in Table 3.8, I added two subcodes: curricular policies and district initiatives. Instances of these subcodes provide evidence of the support teacher librarians provided to the educational program by linking their practice to curricular policies and district initiatives.

Table 3.8: Subcodes for Wenger's "Modes of Belonging" Alignment

Subcodes	Description
curricular policies	Alignment involves shifts or changes in practice based on a new idea or set of ideas.
district initiatives	Alignment includes convergence around a common vision, coordinating practice with new standards or methods.
	The process that produces the ability to act with respect to a broad picture of the world, to do something in concert with others, to embrace a bigger idea as part of our identity.

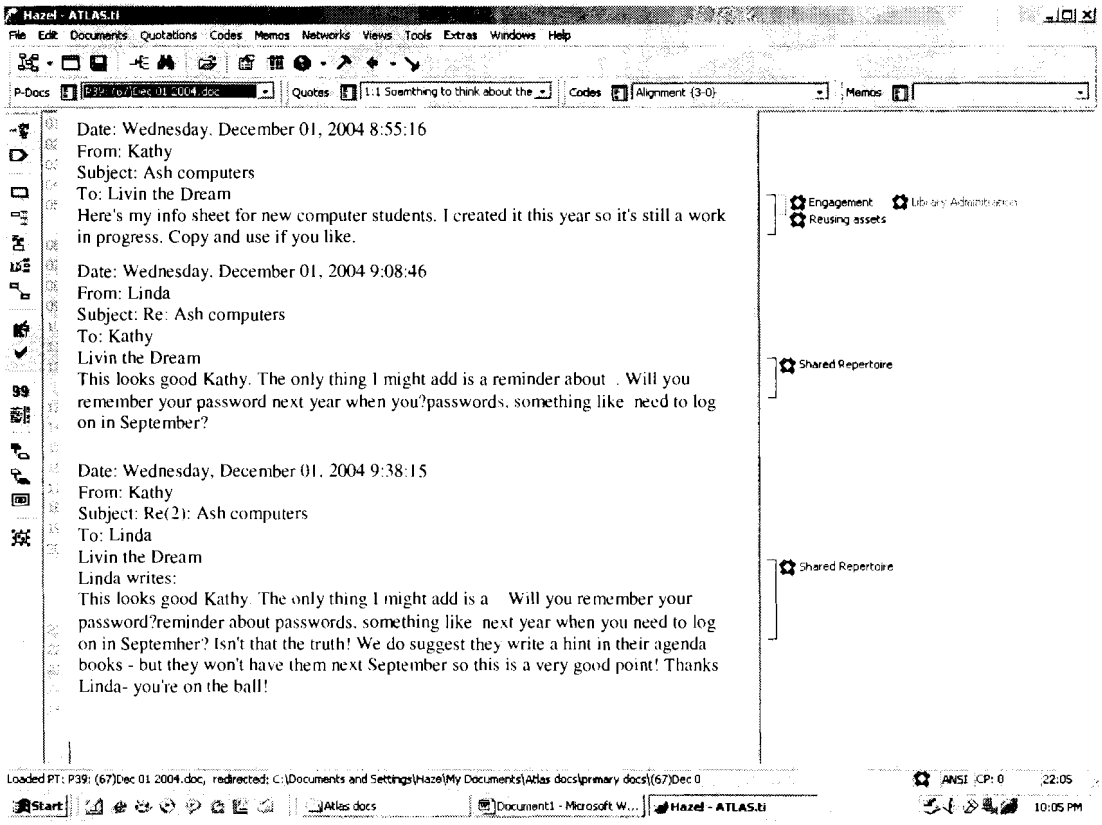
Note. Codes adapted from Gallucci, C. (2003). *Theorizing about teachers' response to reform: The role of communities of practice. An occasional paper.* Seattle, WA: Center for the Study of Teaching and Policy, University of Washington. (ERIC Document Reproduction Service No. ED480033; Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity.* Cambridge, UK: Cambridge University Press.

Coding process

Figure 3.2 provides an example of a content analysis of an email communication. In this example, the email messages were grouped together by the subject "Ash Computers" and identified as an example of *engagement* (major code) in *library administration* (subcode). In the first message, Kathy informs she had attached a document she had created for student computer use. These sentences provide evidence for engagement in the practice of a library administration, and were coded for engagement, as well as for the subcodes *reusing assets* and *library administration.* In "copy and use as you like," Kathy promoted the *reuse of assets.* In the second email, Linda responded by saying she liked Kathy's document, but would also add a

clarification to it, an example of *sharing repertoire.* The third email demonstrates Kathy's agreement with Linda's comment. This email also illustrates the difficulty of coding an environment, being asynchronous, where participants may repeat the previous email before responding.

Figure 3.2: Example of Content Analysis Coding



Note. Data framing from ATLAS.ti. Muhr, Thomas. (2004). User's Manual for ATLAS.ti 5.0, ATLAS.ti Scientific Software Development GmbH, Berlin. Reprinted with permission.

Another example of content analysis subcoding of research question 2 consists of the following emails from January 25. Kathy posted the following

question indicating *engagement* in practice, by *requesting information* about a literature focus, thus *literature appreciation*:

> Does anyone have a list of classics they'd be able to share with me? I'd like to add some classic novels to our collection and I'm looking for titles. Thanks in advance!

Linda responded with a new idea "Pageturners", providing an opportunity for *imagination*, and a document indicating *reusing assets*:

> I got rid of many of my 'classics' because they never circulated. Why not take a few into the senior english classes and ask the kids what else they would like to read. We do a Pageturners - Books too good to put down with the Gr. 12 English classes each year. If they suggest books we don't have I try to bring copies in. I also produce an annotated list or brochure to pass out in the class and library . See attached samples.

Kathy restated Linda's reply when responding to thank her for her idea and samples:

> Linda on Tuesday, January 25, 2005 at 11:22 AM -0800 wrote: I got rid of many of my 'classics' because they never circulated. Why not take a few into the senior english classes and ask the kids what else they would like to read. We do a Pageturners - Books too good to put down with the Gr. 12 English classes each year. If they suggest books we don't have I try to bring copies in. I also produce an annotated list or brochure to pass out in the class and library. See attached samples. You are amazing!!! Thank you

Direct observation field notes and document collection

The remaining data were used to check inferences based on the analyses of the email communication. The content analysis of field notes and documents thus provided corroborating evidence in support of research questions two and three and the practice of Livin' the Dream. Observations included district meetings, school library visits and Livin' the Dream dinner meetings. Documents included attachments to emails and those collected at meetings and on visitations. Email documents were printed and filed in a binder with other documents.

Coding process

The data from offline observations and documentation were examined separately, but in the same manner as email messages, that is, first by major codes and then the contents of the document by subcodes.

The following is an example of a portion of a document that was attached to an email. This document was the result of an online collaboration, thus the document was assigned the major code of *engagement* and the subcodes of *literature appreciation* and *curricular support.*

Figure 3.3: War and Its Aftermath Compiled Bibliography Document

WAR and Its Aftermath Grade 11 English		
ARNOTHY, Christine	I Am Fifteen and I Don't Want to Die	WWII
BANKS, Lynne Reid	Broken Bridge	Arab-Israeli Conflict
BARKER, Pat	Regeneration	WW I
BAT-AMI, Miriam	Two Suns in the Sky	WW II, Refugees
BOWDEN, Mark	Black Hawk Down	Somalia, 1993
BRESLIN, Theresa	Remembrance	WW I
CHAN, Gillian	A Foreign Field	WW II
CLINTON, Cathryn	A Stone in My Hand	Palestinian Conflict
CORMIER, Robert	Heroes	WW II

Note: This is a portion of a bibliography compiled by Marie on which Livin' the Dream collaborated.

Another example of coding a document received during a visitation was a year end report. The report itself was arranged by the components of a library program: *library administration*, *literature appreciation*, *information literacy* and *curriculum support*, thus indicating *engagement* in practice and providing evidence of the subcodes. In the following quote from the document, *Alignment* with district initiatives was reported:

> One of the chief goals of the library program this year again was to support the School District's goal of improving students' reading proficiency and to implement the Literature Appreciation section of the school library program....

The difficulty in coding the documents and field notes was the amount collected. Therefore, I applied subcodes only to the sections of documents and field notes which had already been coded with the same major codes as used with evidence in data I sought to corroborate.

Robustness of the Study

In this study, credibility was established through triangulation, referring to multiple sources of information, including both data and literature. Creswell and Miller (2000) define triangulation to be "a validity procedure where researcher's search for a convergence among multiple and different sources of information to form themes and or categories in a study" (p. 126). Originally triangulation referred to only checking with different data sources, but is now applied more widely to include comparison with relevant literature. In this study, credibility was also established through a member check of findings. Copies of the findings chapters were given to the teacher librarians of Livin' the Dream to read and comment. Three teacher librarians were able to meet and discuss the findings; two commented via email communication. These discussions are reported in Chapter 6, the discussion chapter. All were asked to read the chapters for any inconsistencies in the telling of the data I reported, and any information for addition or deletion.

Transferability, another measure of robustness, can be achieved through a clear description of the research context and methods to identify similarities to another context. It is difficult for a researcher to specify transferability of findings; however, only by providing enough information about the study, the reader may determine whether findings are applicable to a new situation (Lincoln & Guba, 1985).

Researcher Biases

Every study has biases. I may have been unduly persuaded by the notion of a community of practice. For example, I could have conducted a study testing which of two models of community (a CoP being one) best explains the work of these teacher librarians. Riel and Polin (2004) identified three types of communities that might have informed such a study: task-based, practice-based, and knowledge-based communities. Furthermore, I have not considered the possibility that the Livin' the Dream teacher librarians were simply an information network of professionals, explanation of which does not necessitate the notion of CoP.

An additional bias is that I am a teacher librarian and have been working in the district that was the context for this research for sixteen years. This is where my interest in the working relationships of teacher librarians began. Further interest in the role of teacher librarians developed as I read related literature during graduate study. Much of the work of teacher librarians in support of the educational program

is invisible to other educational partners. Therefore, I wanted this research to be useful for advocacy on behalf of teacher librarians. My work as a teacher librarian and my knowledge of the participants provided me with some distinct advantages as I conducted this study, but it also introduced potential for conflicts of interest and partiality.

Summary

This chapter explained the rationale for using a case study, described the settings and participants, as well as my own role and relationship to the participants, the details of the data collection and analysis and finally the rigor and the limitations inherent in the methods I chose.

The next chapter introduces the teacher librarians of Livin' the Dream and address the question: Are the teacher librarians of Livin' the Dream a Community of Practice? This question was investigated by referring to the indicators Wenger (n.d.) suggests establish whether or not a CoP exists: the domain, the community, and the practice.

Chapter 4
Livin' the Dream: A Community of Practice?

This chapter is the first of two reporting the findings, and focuses on the first research question: *Are the teacher librarians of Livin' the Dream a community of practice?* To examine the evidence in relating to this question, I use what Wenger (n.d.) refers to as characteristics that a CoP exists, and identify the domain, the community and the practice of the teacher librarians. The chapter consists of five sections. The first section provides an overview of the data and analysis used to investigate the question. This is followed by a section introducing the teacher librarians of Livin' the Dream. The next two sections report the findings for the content analysis examining domain, community, and practice, and the conversation analysis examining how the teacher librarians interact via email.

Overview of the Data and Analysis

As a reminder, research findings were derived primarily from observations of the email communication of the participants, with supporting evidence provided from direct observations during visits to participants school libraries, participant observations of district meetings and Livin' the Dream dinner meetings and documents collected.

The variety and volume of the data are shown in Table 4.1. This chapter focuses on 546 email messages that were the subject of content analysis. To establish the existence of a CoP, I analyzed the email messages using the codes from Table 3.3 (p. 62). These codes were derived from Wenger's characteristics that indicate a CoP exists. For the conversation analysis, the email messages were divided into 86 conversations. A "conversation" was a distinct occurrence of participants taking one or more turns discussing a single topic. The analyses of email messages provided evidence of the work the teacher librarians were engaged in and the manner in which the work was conducted. The other data (i.e., field notes and documents) were used for checking my interpretations.

Table 4.1: Data Collected and Data Analysis Links

Data collected		Source of evidence	Analysis
546	Livin' the Dream email communications	FirstClass server	Content
86	Livin' the Dream email conversations	FirstClass server	Conversation
2	Livin' the Dream meetings	Field notes journal	Content
2	District teacher librarian meetings	Field notes journal	Content
2	District curriculum leadership meetings	Field notes journal	Content
2	District computer contact meetings	Field notes journal	Content
4	School library visits	Field notes journal	Content
37	Documents: email attachments	FirstClass server	Content
56	Documents collected	Document notations	Content

The Teacher Librarians of Livin' the Dream

At the beginning of the study, Livin' the Dream consisted of four teacher librarians; midway through the project they were joined by one teacher new to librarianship (Janice), and near the end of the study by another (Wynn). These changes are characteristic of communities: A community needs to be able to

regenerate its membership (Traweek, 1988, cited in cited in Barab, Kling, & Gray, 2004). The following emails welcomed the new teacher librarians to the community:

> Hi everyone and welcome to Janice, I spoke to Janice today to let her know who we are and how we'd like to help her if she needs it. Janice would love it if we send info her way. I also volunteered our services if she has questions... (Kathy)

> Hi Wynn... There's also a group of us (secondary librarians) who get together online, during pro d days and sometimes after school to compare notes, offer ideas and generally help each other out. We'd be happy to have you join...(Kathy)

With the inclusion of these two new teacher librarians, all the secondary school librarians in the district were now a part of Livin' the Dream. In addition to being supported by the Livin' the Dream group, Janice and Wynn were assigned mentors (Linda and Kathy respectively) as part of a mentorship program initiated by the school district. Table 4.2 shows the teacher librarian experience each Livin' the Dream member brought to the CoP, which ranges from one month to twenty years and illustrates the acceptance of the new members by the other teacher librarians and the growth of the community.

Table 4.2: Livin' the Dream Teacher Librarian Experience

Teacher Librarian	Experience
Janice	5 months
Kathy	6 years
Laura	3 years
Linda	20 years
Marie	12 years
Wynn	1 month

The teacher librarians contributed on a daily basis to an online discussion environment, FirstClass™. During the five-month period of the study, they wrote 546 email messages. Table 4.3 provides a frequency count summary of email postings of the teacher librarians email in Livin' the Dream and illustrates varied participation of the teacher librarians.

Table 4.3: Summary of Livin' the Dream Teacher Librarian's Email Postings

Teacher Librarian	Postings
Janice	21
Kathy	119
Laura	44
Linda	142
Marie	163
Wynn	1

While no moderator was assigned to the group, it is evident that Linda and Marie, the two teacher librarians with the most experience, posted most frequently. Janice and Laura, with the least experience, posted less frequently. Through access to Livin' the Dream online conversations, Janice and Wynn had exposure to teacher librarian practice. For example, in the days after a Livin' the Dream dinner meeting, 22 follow up emails were posted regarding computer tips, recommended booklists and curriculum resources. Janice posted the following message, after accessing the follow up emails:

> Ladies of the libraries, I am in awe of you all! You are fabulous. Thank you for the very helpful and informative daily emails. They provide both affirmation (sometimes) and much needed direction (at all times). (Janice)

However, they did experience "legitimate peripheral participation," gaining information from the CoP. Legitimate peripheral participation is a term coined by Lave and Wenger (1991) to discuss relationships in community of practice between new and established members (p. 29). Legitimate peripheral participation allows for new members, like Janice and Wynn, or members with less experience, like Laura, to observe the practice of members with more experience Kathy, Linda and Marie, while asking questions, integrating and offering ideas about practice they are learning.

Findings: Content Analysis

Findings from the content analysis are presented under the categories that Wenger suggests are indicators that a CoP exists: domain, community and practice. Comments of the participants have been included to provide richness in detail.

Domain

According to Wenger, McDermott and Snyder (2002), the domain of a CoP creates a common ground and a sense of identity (p. 27). The following example shows that there was shared competence among community members and the joint enterprise of developing a library program brings them together, in the engagement of domain related practices.

A request for a representative from Livin' the Dream to be part of a School Library Advisory Committee created a lengthy discussion. Although there was some

hesitation to volunteer, indicative of the commitment of the group to their profession and the domain to which they belong, a compromise was reached. "I feel as you, don't really want to take it on but will if no one else can, what if we sign one person up with others prepared to stand in." (Linda) The following quotation illustrates the solution that was arrived at:

> As per our discussion about this committee, and our agreement that everyone was too darn busy, but if I would apply, you would pinch-hit for me if I couldn't make one of the meetings, I am sending this application to the NVTA. Any comments or suggestions would be appreciated: As co-author of the District's library services document, *Libraries: Literacy and Literature in the Information Age*, I am particularly interested in the implementation of improved and innovative library services... An exemplary library program can only come from the collaboration and support of teacher-librarians, public librarians, classroom teachers and administrators. This committee would seem to have the support of all of these players and draw on all of their strengths, and I would like to be a part of it. (Marie)

The School Library Advisory Committee invitation and the resulting discussion about it was an example of connecting with what Wenger (1998) called "boundary practices," which are common in organizations; examples include task forces, executive committees and cross-functional teams (p. 114). The purpose of the committee was to improve and innovate library services and events in the school. One teacher librarian would sit on the advisory council which has a representative of all school district shareholders, a teacher, teacher librarian and

administrator from both elementary and secondary schools, as district administrator, a public librarian and a parent. This committee provided a forum for mutual engagement between district shareholders. As a representative of secondary librarians at the School Library Advisory Committee meetings, Marie was able to speak on behalf of Livin' the Dream. She reported back as follows:

> I went to School Library Advisory Committee meeting last night. One thing that came up was a proposed meeting of teacher librarians, with release time provided by Lenard Jones, on the afternoon of Wednesday, January 19. Most of the things they want to discuss seem to be aimed at Elementary librarians. I said that we share everything we have with each other already, but I would ask you if you thought we could use the time usefully. Maybe we could use it to discuss ideas like the ones we have been talking about here. We would have only 45 minutes - the rest of the time would be spent on a review of literacy initiatives and on public library databases. I have to let the committee know your opinions, so please get back to me. Thanks... (Marie)

Marie's comment to the committee, that secondary teacher librarians already shared everything, is illustrative of the joint enterprise in which they engage in the practice of developing a school library program.

Further to the awareness the domain members shared, the teacher librarians shared notes from meetings that one attended, yet others did not. This is illustrated in the following exchange:

I know that there is a meeting, but at what time? Are any of you planning to attend? .... I'd appreciate hearing details from you. (Marie)

A few words about last night's [district teacher librarians'] meeting: if you have new staff needing media booking #s just call Marion [the school district's librarian]; when submitting invoices for library materials to your financial person please indicate the type of material purchased i.e. books, videos, CDs etc.; Marion is offering library orientation how-to's for new staff - Marie this might be ideal for your new clerk; invitations will be coming out for an event at the district curriculum center to celebrate International School libraries day. Margaret will be speaking. Oct. 25 (RSVP to Marion by Oct. 21 - staff and parents welcome); Andrea and the public library + Shelley are joining forces to offer a series of workshops for parents/teachers/ librarians. The first one is scheduled for Nov. 18 7-8:30 pm on the best and brightest new Canadiana for kids; they are starting Red Cedar nominations for teens. Watch for a message from Andrea; they are looking for a chapter rep for the provincial teacher librarian's association, let Shelley know if you are interested. (Linda)

Hi Linda, thanks so much for attending last night meeting and the information...(Laura)

The teacher librarians' domain is provided a structure by the components of the school district's library service delivery model program: curriculum support, information literacy, literature appreciation, and library administration, indicative of domain related practices. The teacher librarian directs the development of these components of the school library program. Table 4.4 provides email subjects that

illustrate these four components of a school library program and provides examples of discussion topics. Email communication related to curriculum support indicate topics about print and non-print resources, recommendations forwarded by forums, and specific school district related topics such as upcoming exams and the district's focus on reading initiative. The information literacy topics provide evidence of the sharing of curriculum related websites and information literacy lessons. The literature appreciation topics represent the teacher librarians' interest in connecting literature to students interests. The library administration topics represent their management of resources while administering a library program. The table is therefore illustrative of the shared repertoire of the teacher librarians in their domain.

Table 4.4: CoP Engagement in Domain Related Practices

Library program component	Discussion examples
Curriculum support	BCTLA / CASL forum
	CAPP videos
	Electronic databases
	Email exchange
	Literacy in the middle years
	Upcoming exams
Information literacy	Blue Web'n
	LLI websites
	New neat websites
	Science sites
	What is plagiarism
	Substance abuse sites
	Webbits
Literature appreciation	100 notable books of the year
	Books for boys
	Classics
	Forensic fiction
	Historical fiction project
	Individual novel study – war
	Mystery novels
	Recommended books for adolescents
Library administration	Book repairs
	Library book overdues
	Magazine question
	Photocopier
	Saving on a pc
	Video rights
	Weeded book disposal

Note. Curriculum support, information literacy, literature appreciation and library administration are subcodes of the major code engagement.

Community

According to Wenger, McDermott and Snyder (2002), a community creates the social fabric for learning. By interacting regularly, community members develop and share understanding of their domain and approach to practice. Wenger (1998)

further discusses community as having characteristics of engagement by having places to meet and talk about practice and also forge relationships. In this study, engagement among community members was facilitated by the district's email system, by dinner meetings initiated by the members, and by meeting at district meetings.

The teacher librarians met face to face at group initiated meetings and at school district meetings. The teacher librarians initiated their own professional development by coordinating Livin' the Dream dinner meetings. Marie offered her home for the dinner meetings, and everyone brought something to share: ideas, resources, and refreshments. The day after each dinner meeting, email postings included sharing of the resources and ideas discussed the previous evening. Document attachments such as themed booklist pamphlets and lesson ideas were posted along with an introduction. For example:

> Great get-tog. last night. To follow up:
>
> I have attached the progress chart. Remember, this can be modified in any way to suit any assignment. Or make your own by going to Word and Table and Draw.
>
> A great new sci/fi book is Mortal Engines by Phillip Reeve (Linda)

During a Livin' the Dream meeting on September 20, I observed a discussion about the upcoming school year and upcoming subsequent school district meetings

that required attendance by teacher librarians. The Livin' the Dream group decided who would attend each meeting. After each meeting, there was a report back to the group. As reported earlier, Linda shared notes from a meeting that she attended, yet others did not. In October, Kathy attended the provincial teacher librarian's conference. At the next Livin' the Dream dinner meeting, Kathy shared the handouts from the sessions she had attended. Kathy, Linda and Marie also reported back about the same meeting of a district curriculum implementation session they had attended. Kathy spoke of the sentiment that teacher librarians should support district initiatives but should not have to be on every committee to be recognized as a group. She was quite surprised to discover that the library was not included on a school map for earthquake drills.

The following comment was posted to the Livin' the Dream online discussion are representative after a dinner meeting, and illustrates the sharing of information and the support that was provided.

> Thank-you all for your gems of info. Together, we can be awesome ....Thanks for the goodies, the ideas, and the company. (Marie)

While the teacher librarians provided professional development to each other, they also participated in other activities, and shared information and provided opportunities for what Wenger (1998) calls "boundary encounters." Boundary encounters are opportunities to interact with members of other communities, including meetings, conversations or visits (p. 112). Examples of professional

development activities through boundary encounters are: school district teacher librarian meetings, school district computer contact meetings, school district curriculum leadership meetings, and provincial teacher librarian's forum and conference. All of these activities were sponsored by the school district or organized by another professional organization.

According to Wenger (1998), the development of interpersonal relationships enhances a community by increasing a comfort level among members. The following are examples of sharing personal details, both sad and happy occasions.

> Linda will be off line for a few days. Her sister Ann and her husband were in a car accident, and her brother-in-law was killed. Linda is going to the Interior to be with her sister. (Marie)
>
> Thanks for letting us know Marie. What an awful thing to happen... (Kathy)
>
> Dear Friends -I had planned to wait and casually mention this when we meet on Nov. 1, but I don't want you to hear first from someone else, and I can't contain myself any longer, so ... Mark and I are getting married at Spring Break! ...(Marie)
>
> Hi Marie,
>
> Congratulations on your engagement. How exciting! I'm so happy for you. That is terrific news. (Laura)

By interacting regularly professionally, the teacher librarians shared an understanding about their practice. Their professional relationships developed into personal relationships, as illustrated by the above interactions.

Practice

According to Wenger, McDermott and Snyder (2002), the *practice*, the body of knowledge, methods, tools, stories, cases, documents which members share and develop is a set of frameworks, ideas, and information that communities share (p. 29). Wenger (1998) commented that alignment of practice converges around a common vision. The teacher librarians' practice aligned with the district's library program and services framework and it illustrated the four program components: library administration, curriculum support, literature appreciation, and information literacy. Wenger discusses a shared way of doing things as illustrative of the practice of a CoP (p. 125). During informal conversations during observations, Livin' the Dream cited each other as their sources for practical library administration questions, what Linda called 'administrivia'. Examples are information on the following topics: procedures for licensing for video viewing rights, book repairing, computer use guidelines, generic logins for visiting teachers, circulation procedures and ordering information. As mentioned in a series of emails titled "Library Overdues," the circulation procedures of one teacher librarian had been adopted by the other teacher librarians.

> Hi Linda and Marie, It's almost been 6 months since I've used your idea to let students have library books for 3 weeks versus 2 weeks. My overdue list is way smaller than it used to be, and it makes my job that much more efficient. Thanks for the super idea. (Laura)

> We've been doing the same thing and have also had great success! I only change my due date cards once or twice a week (depending how busy we are) and find that this also makes tracking the overdues easier. (Kathy)

The teacher librarians assisted each other in their individual library program development thereby supporting the content of the school curriculum and the development of literature appreciation and information literacy program components.

All the teacher librarians cited Livin' the Dream as a source for literature appreciation development during discussions at Livin'the Dream meetings when members shared their latest created reading pamphlets and theme lists. Evidence of teacher librarians knowing what each other knows, and how each contributes to an enterprise, was illustrated in email correspondence regarding an independent novel study on War and its effects. "Any suggestions would be greatly appreciated... I will share the final list with you." (Marie) The conversation continued for a week; the end product consisted of a combined list of bibliographic references contributed by all the teacher librarians. This artifact was then linked to another project when Linda requested assistance in compiling a holocaust bibliography, asking "...Do any

of you have something already started that I could adapt?" Marie replied, "Yay! Look at the War bibliography I sent you - there is Holocaust stuff [there]."

The practice of independent novel studies was originally shared by a member of the group as illustrated in the following posting:

> Bless you, Linda for the concept of independent novel units. The students and the teachers both love the variety and the freedom to choose (within certain parameters). (Marie)

A further example of literature appreciation is provided by the communications below:

> Does anyone have a list of classics they'd be able to share with me?... (Kathy)

> I got rid of many of my 'classics' because they never circulated. Why not take a few into the senior English classes and ask the kids what else they would like to read. We do a Pageturners - Books too good to put down with the Gr. 12 English classes each year. If they suggest books we don't have I try to bring copies in. I also produce an annotated list or brochure to pass out in the class and library. (Linda)

In documents collected from her, Marie had adapted Linda's Pageturners idea to her library program.

Livin' the Dream also provided resources and ideas in support of information literacy. At the first Livin' the Dream meeting, the teacher librarians discussed

vetted website services to which they belonged. Kathy, Linda and Marie forward websites of interest to the group. The following exchange is an example of sharing internet resources:

> Thanks Linda, You've sent some great sites lately and I really appreciate it. I always pass them on. (Kathy)
>
> Linda - thanks for the recent web sites. I have forwarded them to the appropriate departments. (Laura)
>
> These are great sites. Thanks, Linda. I have forwarded them to both my Civ 12 teacher and the Science department. The Science guys seldom use the library, but they love the sites I send them, and the articles from magazines and the *National Post.* I live in hope of eventually luring them in here, but in the meantime, the web sites are good PR for the library. (Marie)

Further evidence of teacher librarian practice was found in examples of what Wenger (n.d.) suggested are typical examples of CoP activities through dialogue. Table 4.5 applies Wenger's dialogue CoP categories to Livin' the Dream communication.

Table 4.5: Examples of Dialogue Indicating Community of Practice

CoP Activity	Dialogue Example
Discussing developments	I started the Internet safety lessons with gr. 8's this week and am using the lesson plans from the new Web in the Classroom book (thanks Kathy) - it's going very well.
Requests for information	Can anyone recommend a nice light novel to provide affirmation of teen struggles? What's the name of your nanny operation license the gizmo on your computer that can prevent students from playing games?
Reusing assets	Here's my info sheet for new computer students. Copy and use if you like. I just wanted to let you know that this is my second year using your Library Orientation Scavenger Hunt idea with the Grade 8s.
Seeking experience	Does anyone have a policy in regards to non-English sites on the web? Any suggestions, advice or comments would be appreciated? I received a general notice from the Visual Education Centre informing me that I need to track all videos that are shown in school. Does everyone do this and if so, do you do it for only the library videos or all departmental videos as well?

The content analysis of the teacher librarian Livin' the Dream online communication provided evidence of the indicators Wenger (n.d) suggests a CoP exists: domain, community, and practice.

Findings: Conversation Analysis

Content analysis by itself is insufficient for answering research question one. To examine whether the teacher librarians can be called a "community," an investigation of how they interacted with each other is required. A conversation analysis provides an examination of their interaction practices. Of the 546 email

communications, some were single postings, but 86 could be identified as conversations—sequences of messages that were on a single topic. The data were stored on a server, then reorganized into conversation threads in a word processing program, and imported into ATLAS.ti™ (Muhr, Thomas, 2004) for coding.

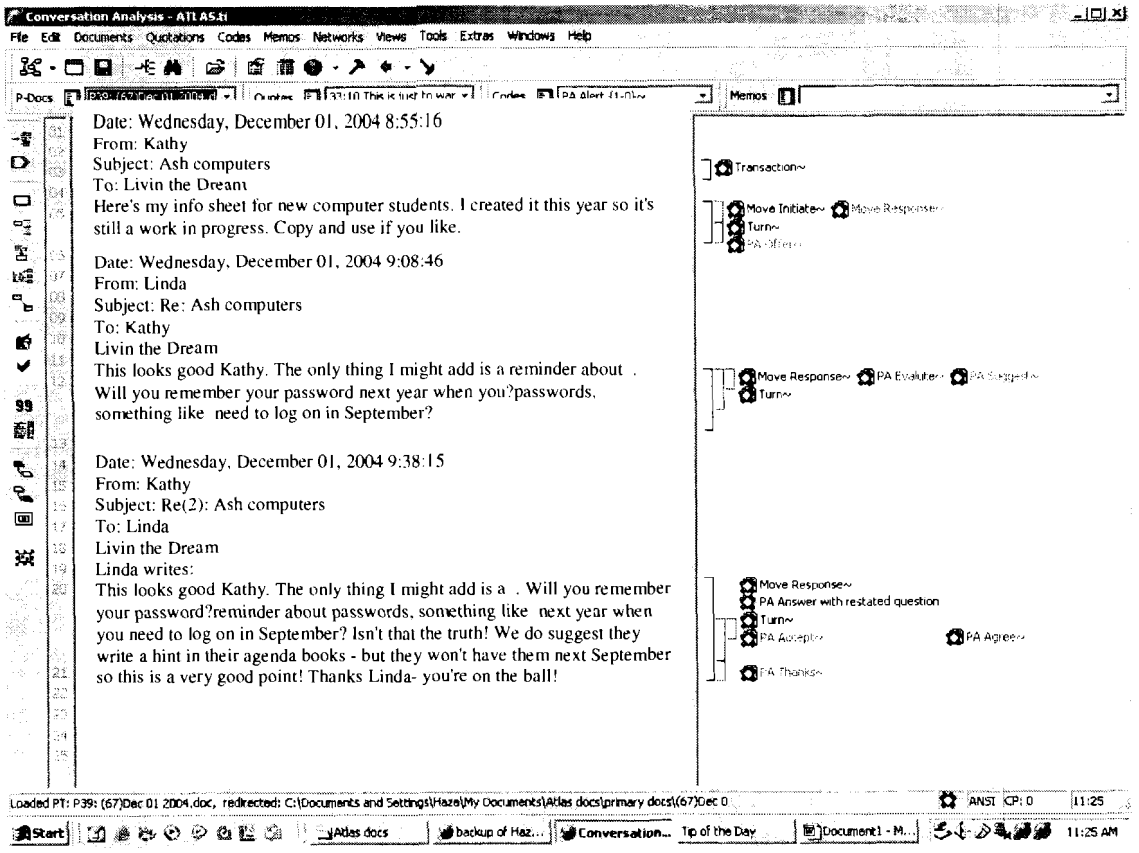
Table 4.6 provides a summary of the conversation analysis coding, showing 86 transactions, conversation threads, and a high level of interaction with regard to the number of turns. A turn indicates everything a current speaker says before the next speaker. A move is a verbal action which 'moves' the conversation forward. It is what the speaker does in a turn in order to start, carry on and finish a conversation. An act is a signal for what the speaker wishes to communicate. Moves and acts, therefore, are illustrative of the conversation function within each turn.

Table 4.6: Summary of Conversation Analysis Interactions

CA analysis code	Interactions
Transactions	86
Turns	268
Moves	276
Acts	450

Figure 4.1 is a screen shot of the ATLAS.ti™ database. It provides an example of a transaction analyzed for conversation interaction, indicating turns, moves, and primary acts. This also illustrates an example of Stemler's (2001) sampling unit analysis of coding identified words, sentences, or paragraphs.

Figure 4.1: Example of Conversation Analysis



Note. Data framing from ATLAS.ti. Muhr, Thomas. (2004). User's Manual for ATLAS.ti 5.0, ATLAS.ti Scientific Software Development GmbH, Berlin. Reprinted with permission.

This conversation is evidence of an amicable professional relationship among the teacher librarians. In the first message, Kathy offered a document to be reused by the other member of Livin' the Dream. In the second message, Linda provided positive feedback and offered a suggestion for improvement. Kathy then responded in agreement to the suggestion with a thank you. While some conversations may continue over a few hours, days, or weeks, this transaction illustrates how a conversation may begin and end in one hour. The online discussion environment

allows for conversation having an immediate response or allowing for messages to be stored for a response after reflecting on the message content.

Table 4.7 summarizes the coding of conversation analysis, which illustrates the different moves and acts that occur during conversation interaction. The moves and acts engaged in by the teacher librarians indicates their collaborative relationship. By the 177 response moves and 82 initiate moves, the teacher librarians are shown to engage by acknowledging each others postings and responding to them. The primary acts show the high incidences of questions posted to request information and confirmation, as well as postings specifically to provide information. Alternatively, the lack of primary acts which involve the need for apologies, rejection, or evading answers, illustrates a cohesive working relationship. The high incidence of greetings and thanks also suggests an amicable working relationship. A secondary act can accompany and sometimes replaces a primary act. The high incidence of expanding and precursor comments further indicate the sharing of information. A complementary act accompanies, but rarely replaces, a primary act.

Table 4.7: Conversation Analysis Codes

Code	Subcodes		Subcodes	
Moves	Backchannel	0	Reopen	9
	Focus	3	Repair	3
	Follow-up	2	Response	177
	Initiate	82	Summons	0
Primary Acts	Accept	16	Inform	51
	Acknowledge	11	Invite	3
	Agree	18	Object	0
	Alert	1	Offer	11
	Answer comply	18	Opinion	7
	Answer disclaim	6	Query	1
	Answer evade	1	Question confirmation	31
	Answer imply	0	Question Identify	2
	Answer supply	2	Question information	41
	Answer with restated question	92	Question polarity	9
	Apology	9	React	10
	Call off	0	Reject	1
	Check	3	Reply	11
	Closer	4	Request Action	20
	Confirm	34	Request Permission	1
	Disagree	2	Smoother	0
	Evaluate	2	Statement	11
	Greeting	43	Thanks	53
Secondary Acts	Clue	0	Justify	5
	Emphasizer	19	Metacomment	4
	Expand	23	Precursor	28
			Preface	1
Complementary Acts	Appealer	0	Hedge	0
	Booster	0	Monitor	0
	Empathizer	0	Staller	0
	Filler	4	Starter	0
	Frame	0	Uptake	0

Note. Adapted from Stenstrom, A. B. (1994). *An introduction to social interaction.* London, U.K.: Longman.

Wenger's (n.d.) dialogue examples of CoP activity, discussing developments, requests for information, reusing assets and seeking experience provided in Table 4.5, can be linked to and are illustrative of CA primary acts: questions asking for

information, questions asking for confirmation, responses to requests for confirmation, and providing information.

The CA provides further evidence that a CoP exists. Wenger (1998) states that CoP interaction is indicated by a familiarity with each other characterized by the absence of opening and closing remarks and the tone of conversation. As is suggested by the CA, while CoP members provide greetings, closing remarks are rarely included. There was evidence the teacher librarians had a positive working relationship by the lack of the need for repairs, smoothers, disagreements, and reject CA interactions. Evidence of the working relationship can be found in the high incidences of primary act questions for information and confirmation and the suggestions, requests for actions, and confirming of information.

Conclusion

The Livin' the Dream email communication was analyzed in two parts, first for content and second for conversation analysis (CA). While CA provides details of the conversational sequencing, content analysis provides details of the theoretical framework. The content analysis provides evidence that illustrates a CoP exists. The domain, the community, and the practice of a CoP were identified through the three dimensions of a CoP: mutual engagement, joint enterprise, and shared repertoire. Furthermore, Wenger's dialogue indicators of a CoP correlate to the primary acts of CA. The teacher librarians have an established domain, community

and practice by mutually engaging in the development of a school library program, collaborating on joint tasks and sharing related practice to their repertoire.

Chapter 5
The Identity of Livin' the Dream

Chapter four established the existence of a Community of Practice among the teacher librarians of Livin' the Dream. This chapter addresses the second and third research questions:

2. How do teacher librarians engage in a CoP and collaborative activities related to curriculum support and professional development?
3. How does the engagement of teacher librarians in a CoP support the development of educational programs?

To examine the evidence in relation to these questions I use what Wenger (1998) refers to as "modes of belonging": engagement, imagination and alignment. This chapter consists of four sections. The first section provides an overview of the data and analysis used to investigate the questions. The next section, *Teacher librarians Support Curriculum and Engage in Professional Development*, reports findings under the headings Engagement and Library Program Development and Imagination and Professional Development Opportunities. The third section, *Teacher Librarians Link with Educational Programs*, reports the findings under the heading Imagination and Alignment link with Educational Programs.

Overview of the Data and Analysis

Similar to Chapter 4, the research findings are derived primarily from email messages, with supporting evidence drawn from direct observations of visits to participants' school libraries, participant observations of district meetings and Livin' the Dream dinner meetings, and additional documents. Wherever possible, actual comments by participants have been included to illustrate the findings. Observations of meetings were not audio or video recorded; field notes were made during observations and revisited as soon as possible after the event. These events and statements, therefore, are presented in my own words and not those of the study participants.

Data were analyzed for content using the codes described in Tables 3.7 and 3.8 developed from Wenger (1998) and Gallucci (2003) and providing evidence of Wenger's (1998) modes of belonging: imagination, and alignment. I used the subcodes to code the data for Wenger's modes of belonging. Table 5.1 provides a summary of the data collected and analyzed.

Table 5.1: Data Collected and Data Analysis Links

Data collected		Source of evidence	Analysis
546	Livin' the Dream email communications	FirstClass server	Content
86	Livin' the Dream email conversations	FirstClass server	Conversation
2	Livin' the Dream meetings	Field notes journal	Content
2	District teacher librarian meetings	Field notes journal	Content
2	District curriculum leadership meetings	Field notes journal	Content
2	District computer contact meetings	Field notes journal	Content
4	School library visits	Field notes journal	Content
37	Documents: email attachments	FirstClass server	Content
56	Documents collected	Document notations	Content

Teacher Librarians Support Curriculum and Engage in Professional Development

The second research question was: How do teacher librarians engage in a CoP and collaborative activities related to curriculum support and professional development? Through engagement in teacher librarian practice and opportunities for imagination provided by professional development activities, the teacher librarian CoP illustrated evidence related to the second research question.

Through engagement, the teacher librarians participated in the CoP which involved collaborating on joint tasks, developing relationships, and sharing repertoire as related to the components of a school library program. Through opportunities to imagine new ideas, by regularly meeting on and off line, the teacher librarians engaged in collaborative activities related to curriculum support and professional development.

Engagement and Library Program Development

Data were analyzed for engagement in teacher librarian practice by the codes described in Table 3.5 (p 64). I analyzed data for teacher librarian practice in terms of the school library program components: library administration, curricular support, literature appreciation and information literacy; the forwarding of material to educational partners and related attachments and documents. As well, I looked for evidence of Livin' the Dream members discussing developments, requesting

information from each other, reusing assets and seeking experience in relation to engagement in teacher librarian practice.

A school library program, the common enterprise teacher librarians pursue with each other, focuses on curriculum support in the areas of literature appreciation and information literacy.

Literature appreciation

All the teacher librarians integrated ideas related to literacy development in their library programs. They collaborated online in the creation of book lists, resource lists, and book suggestions including recommended reading lists for teens, award winning novels, science novels, and themes book lists such as its your planet and dystopia. During a visit to her library, I observed Marie conducting a "book pass" activity using the dystopia books compiled in an online discussion that took place weeks before.

The teacher librarians of Livin' the Dream engaged regularly in the shared activity of creating content-specific bibliographies. For example, Marie requested assistance in compiling a bibliography about war and its effects:

> A Grade 11 English teacher here would like to do an independent novel study unit on this topic, and I am putting together a list of suitable books. Any suggestions you have would be much appreciated…I will share the final list with you, of course. (Marie)

Within the next two days both Kathy and Linda had forwarded title suggestions for the unit. Linda's suggestions included annotations from a list on which she had been working but which she had not yet completed. Both Kathy and Linda's suggestions included a variety of reading levels and time periods.

A week after Marie's request, Marie had compiled an annotated bibliography of war novels which was forwarded to both Livin' the Dream and the English department in her school, as the following communication shows:

> Linda - many thanks for your annotations. I have almost completed mine, and will send it to everyone when it is done. This certainly is a great way to do a novel study, get the students involved, and interest the teachers... Here is the list of books I have selected for the English 11, with annotations for each. Please note that the books are at various reading levels. (Marie)

As discussed earlier, Livin the Dream collaborated on Marie's independent novel study on war and its effects book list. Linda later revised and reused Marie's book list for a holocaust individual novel study unit, as indicated in the following communications:

> I have had a request this morning from a staff member who fully supports the library but NEVER uses it with her kids. She would like a Holocaust fiction bibliography and some good web sites that her class can use to explore the power of propaganda and hate literature. She wants to show how most modern hate groups have modelled

> their tactics on Hitler. Do any of you have something already started that I could adapt? Thanks! (Linda)

Both Laura and Marie responded with title suggestions, with Marie making reference to reusing parts of the bibliography collaborated on earlier as well as forwarding vetted website links:

> Yay! Look at the War bibliography I sent you - there is Holocaust stuff [there]. What Grade level? I'll look around for what else I have... Further to your request yesterday for sites to support the unit... I am sending you this. Good luck! (Marie)

Two days later Linda forwarded a completed bibliography:

> I've attached my annotated bib. of WWII fiction, fiction from other times/places dealing with persecution, and non-fiction dealing with the holocaust and persecution. This is for Gr. 11 Socials. (Linda)

Both Linda and Marie used independent novel study units to offer alternatives to curriculum driven programs an idea originally introduced by Linda:

> Bless you, Linda for the concept of independent novel units. The students and the teachers both love the variety and the freedom to choose (within certain parameters). (Marie)

In Marie's annual report to her administration she stated that "the individual novel study units gave students flexibility in choosing a novel within their own reading level and interest, while still working within parameters set by the teacher."

Individual book selection recommendations were also requested through Livin' the Dream. An example is the following request by Janice:

> Hi Ladies
> Can anyone recommend a nice light novel to provide affirmation of teenage struggles. Unfortunately we have a young girl who is depressed and feels as though she is the only person who experiences struggles with friends, gender, etc.
> Thanks, (Janice)

By the end of the day Kathy, Linda, and Marie had responded with 16 suggested titles at a variety of reading levels, as well as a website for reference on annotated teen reads. Being new to teacher librarianship, Janice was unfamiliar with many titles and the readability or popularity of titles with young adults.

Further to the literature appreciation program objective, both Marie and Laura arranged for local author visits to their schools. Kathy and Linda both arranged visits from local public librarians to their schools. As noted in in-school communication library reports, Kathy, Linda and Marie organized trips to local bookstores for fiction collection selecting with teachers and students.

Information literacy

The Livin' the Dream teacher librarians assisted each other in providing information literacy resources and technology skill lessons. An analysis of postings on information literacy topics to Livin' the Dream includes such topics as Internet curriculum guides, web evaluation and internet safety, search engines and searching, and plagiarism. Kathy forwarded an interactive plagiarism website to both Livin' the Dream and her staff and found the plagiarism postings particularly useful:

> Thanks Linda! This is exactly what I need for my field study... (Kathy)

> Hello all! Tracy [a teacher at Marie's school] tells me you have a fabulous lesson on plagiarism, Marie. I'm sure you other ladies do as well. Would it be at all possible for you to send me anything you're willing to lend for a series of lessons I'm working? I will share what I end up with (modify) with everyone. One of the things I've done, is to create a bibliography format sheet using the names of teachers in the school. I used department heads. I've attached a copy if anyone wants to modify it for their school. Thanks so much! (Kathy)

Marie further provided curricular support to the educational program by reading online newspapers and forwarding articles from the *National Post* and *Macleans* to departments, to supplement curriculum content for Science, Social Studies, and English.

Similar to the practice of reviewing books, Livin' the Dream teacher librarians also shared with each other vetted links to websites, which were forwarded to the appropriate departments in the school. Kathy, Linda, and Marie each subscribe to different online services in which trusted professionals review websites for educational content. The teacher librarians vetted the sites for appropriate curriculum links, and passed them on to the Livin' the Dream CoP and departments in their schools. Then, the teacher librarians passed on the recommended websites to teachers in their schools. From noting the departments of teachers to whom the links were forwarded, it was evident that the websites were mainly academically focused for English, social studies, languages, science and mathematics departments.

Documents collected during school visitations revealed that Kathy, Laura, Linda, and Marie all taught internet search strategies. By reviewing school reports, Kathy, Linda and Marie had taught teachers and their students. Further, by way of email attachments to Livin' the Dream, Kathy shared her PowerPoint introduction and Linda provided examples of students' Powerpoint. In an email to her staff, Linda asked if anyone would like a Computer in-service workshop.

Furthermore, the Livin' the Dream teacher librarians were able to connect teachers from schools who wished to explore a technology connection/literature appreciation lesson idea.

> [An English teacher] is teaching Romeo and Juliet with her Gr. 10's this semester and is looking for a class in another school to exchange

> email with. She envisions this as a role playing exercise in which one school would be Capulets and the other Montagues. The students would react in character (the mothers, the fathers, other members of the family) to events as they unfold in the play. They would also offer advice to R & J. This idea is under construction. If you know of any EN 10 teachers who might like to participate would you please let me know? Thanks! (Linda)
>
> [Teachers are] both teaching Eng 10 next semester and are interested in hearing more. I suggested your English teacher could contact them directly to let them know what she has in mind. I'll look forward to hearing how things work out and if there's anything you'd like me to do, let me know. (Kathy)

Linda also forwarded the curriculum connection request to the District Vice Principal of Curriculum and Technology, who responded that she would provide a 1/2 day release for the three teachers to meet.

Library administration

As mentioned earlier, the teacher librarians considered each other the best source for questions related to library administration such as selection of resources, collection management and program administration inquiries. Library administration practices are unique to teacher librarians. With no one else in their schools with whom to discuss these practices, being a department unto themselves, these teacher librarians brought their questions and concerns to the Livin' the Dream. Both Kathy and Laura had adopted Linda and Marie's circulation

procedures into their practice. Further discussions included seeking experience with weeding out-of-date materials:

> I have a problem - With the construction so far, I have lost much shelf space and desperately need to weed. The novels are old – 1970's and 80's. I have NO place to store them before sending them to some unwilling country, and want to trash them. How and where, without raising the ire of parents? What do you do? Secret trips to the transfer station? (Marie)

> Secret trips to Booklovers on Third street might do the trick. He loves everything!!! (Kathy)

The following discussion regarding requesting information about library security systems is an example of a topic unique to the teacher librarian's work in a school.

> Am I the only one at present who has a security system that doesn't work? I've asked my PAC [Parent Advisory Committee] for a replacement but if they say no, not sure what to do next. (Linda)

Linda received replies from both Kathy and Marie on the state of their security systems with Kathy saying her "system has been hit and miss for years...The cost of a new one is really high." Marie had replaced hers with a "refurbished one."

When Linda had questions regarding management of the video collection, she sought advice from Livin' the Dream regarding weeding out-of-date videos saying: "It seems difficult to identify the ones which were bought from an educational supplier and may be OK. Any advice? Kathy, I know you went through your collection some time ago". Linda received replies the same day from Kathy and Marie who were in agreement to the process they used of weeding the videos to departments: "We gave the videos to the different department heads so they could put them in their areas. I know they still get used, but it's now up to individual teachers if they want to break copyright. (Kathy)

Janice, the new teacher librarian, posted requests for information regarding video licensing, book repairing and resource ordering. When Janice requested advice regarding resource ordering, she received replies from Kathy and Linda in the same day:

> I am wondering if anyone knows of any good videos dealing with STDs. Apparently the one we have is a dance drama from the early '80s of black figures in leotards screaming 'I am chlamydia'...YIKES...terrible by all accounts. (Janice)

> Ooh - sounds scary!!
> Our CAPP department buys and keeps their own. I'll check with them, though and see if there's anything they can recommend. (Kathy)

> Take it directly to the trash. Do not pass Go!
> Kathy's comment applies here as well. Is there a drug and alcohol youth outreach worker at the skating rink? We have one who comes to Seycove from Parkgate and she has lots of useful up-to-date information. I'll ask her when I see her next. (Linda)

Janice received suggestions where she could go for further information and confirmation that she was dealing with this resource as others had done.

The above conversations with Janice occurred before the Livin' the Dream CoP had met Janice offline. The following conversation shows evidence of an established working relationship and a comfort level with each other, a comfort level that was developed in an online environment. In fact, Janice had been a participant in Livin' the Dream for two months and had still not met the group offline at the point of the emails above. Her holiday greeting shows that Janice had already been conversing online with Livin' the Dream for three months before meeting them face-to-face for the first time at a district teacher librarians meeting. "Merry Christmas and Happy New Year to you all. I look forward to meeting everyone in the new year." Prior to the January meeting, Janice sent an email saying "I will be there. I am eager to meet with everyone for once", clearly indicating a relationship has already formed.

Imagination and Professional Development Opportunities

Data were analyzed for evidence of teacher librarians participating in activities which would allow for adopting new ideas and resources into their practice, by the codes described in Table 3.7. Content was analyzed for profession development opportunities teacher librarians participated in or initiated at the district or school level. Evidence of discussing developments, reusing assets and seeking experience from ideas obtained at professional development activities outside of the Livin' the Dream CoP were noted.

Professional development

By participating in professional development activities, the teacher librarians added to their practice by trying out new curriculum or using idea from in-service workshops.

While the teacher librarians initiated their own professional development by meeting online daily and coordinating Livin' the Dream dinner meetings, there were other opportunities for professional development that were district initiated such as district teacher librarian meetings, district curriculum leadership meetings, and online forums. During the five-month study, I observed the teachers at six district initiated professional development opportunities, two district teacher librarian meetings, two district curriculum leadership meetings, and two district computer contact meetings. Professional development activities provided inspiration for curriculum support.

Through contact with these professional development activities, the teacher librarians brought ideas back to share with the group.

Linda attended the September district teacher librarian meeting and posted a synopsis to Livin' the Dream which included district ordering procedures and upcoming events:

> A few words about last night's … meeting:..if you have new staff needing media booking #s just call Marion [the school district's librarian]; when submitting invoices for library materials to your financial person please indicate the type of material purchased i.e. books, videos, CDs etc.; Marion is offering library orientation how-to's for new staff - Marie this might be ideal for your new clerk; invitations will be coming out for an event at the LMCC to celebrate International School libraries day. Margaret will be speaking. Oct. 25 (RSVP to Marion by Oct. 21 - staff and parents welcome); Andrea and the public library + Shelley are joining forces to offer a series of workshops for parents/teachers/ librarians. The first one is scheduled for Nov. 18 7-8:30 pm on the best and brightest new Canadiana for kids; they are starting Red Cedar nominations for teens. Watch for a message from Andrea; they are looking for a chapter rep for the BCTLA, let Shelley know if you are interested. (Linda)
>
> Linda - Thanks so much for the synopsis, and for attending the meeting… (Marie)

At the September district teacher librarian meeting, the public young adult librarian introduced the establishment of a provincial teen reader's choice award and

was looking for teen focus groups. Although Kathy did not attend this meeting, Linda had reported a synopsis of the meeting content back to Livin' the Dream. Kathy followed up on this herself and established a reading focus group. As outlined in a monthly report: "[her school] is involved in a fantastic reading review activity with the public library. We have about 20 student book reviewers who are helping to short list a selection of over 60 books." Kathy also shared the recommended reading list from the public library with Livin' the Dream as an attached document. At the second district teacher librarian's meeting, both Kathy and Linda's support of this project was mentioned by the public librarian.

The teacher librarians attended the district computer contact meetings, where the technology coordinators and the district vice principal for technology curriculum and development meet to discuss district technology issues, both technical and curricular. As discussed at a Livin' the Dream meeting, the teacher librarians felt it was important to attend these meetings as they felt their role as information literacy teachers is greatly influenced by technology. Thus, this role closely parallels that of technology coordinators. After meeting up with fellow members of Livin' the Dream at a school district computer contact meeting, Linda posted the following message: "10Q for the great evening ladies… Thanks for being a constant and terrific source of inspiration!"(Linda)

Linda and Marie belonged to the provincial teacher librarian forum and frequently forwarded topics of interest to Livin' the Dream such as Graphic novel

lists, resource recommendations, and teaching non fiction tips. A count of postings forwarded indicated there were 45 email communications from the provincial teacher librarian forum shared during the five month period.

Engagement and Imagination form Relationships

Wenger (1998) discusses how engagement is enabled by the development of interpersonal relationships. "To be a full participant in a CoP, it is equally important to know and understand the latest gossip as it is to know and understand the latest memo" (p. 74). It is through both engagement in practice and participation in opportunities for imagination that relationships develop.

In a series of emails titled "Welcome Back," the teacher librarians of Livin' the Dream recounted their summer travels. For example:

> Welcome back gang! Marie sends greetings as well. She is still immersed in construction and has no computer access in the library. She can be reached by phone at home or through her new aid. In the meantime she is dusting and starting to put things back into some semblance of order. Scotland was wonderful. Prince George was great too...after the horrible drive up. Let's get together soon. (Linda)
>
> Thanks for the welcome back. It's busy here. (Laura)
>
> I hope that you all have a great holiday and a Happy New Year ! See you in January :-) Marie

When Laura had surgery to correct a deviated septum, Livin' the Dream sent her words of sympathy:

> Hello everyone, It is 4:35 am Monday morning. I'm trying to pass away the time until 5 am - then I can take more painkillers. On Tuesday, I got a call from the doctor asking me if I would like to have my deviated septum (nose) surgery on Friday…Ciao for now. (Laura)
>
> I hope this finds you a little better!!!… If there's anything I can do to help you get by let me know. (Kathy)
>
> Laura - I hope that you are feeling better, and quickly… Take care of yourself, and don't rush back too soon. Thinking of you, (Marie)
>
> Hello everyone, Thanks for all your kind thoughts… (Laura)

Marie initiated a discussion regarding sending get well wishes to Laura from Livin' the Dream: "Sounds like we should get Laura a card, a good book, and some flowers. Can we organize it today at the meeting?" Kathy agreed this was "an excellent idea!" as did the rest of Livin' the Dream. Laura followed up by saying "Thank you so much for the gorgeous flower arrangement. It is absolutely stunning … This is so incredibly kind of you. Thank you. It certainly made my day. Fondly, Laura"

The personal relationships in Livin' the Dream developed as a result of their professional contact. As mentioned earlier, an example of sharing personal details

was when Linda had a family tragedy and Marie filled in Livin' the Dream that her brother-in-law was killed. Furthermore, when Marie shared her engagement news, the well wishes were followed up with the following:

> Thank-you all for your good wishes, and yes it does mean that. See you at my place for a meeting and dinner on Nov.1, and I'll fill you in. (Marie)

The Livin' the Dream teacher librarians were invited to the shower and wedding:

> Let's do a funny poem and a "Marriage" bibliography for Marie's shower. We could get a list of funny advice books (or make them up!) to provide for her scrap book. What do you think? I'm assuming we're all going! (Kathy)

> Dear friends.... I'd like to thank you for coming to my shower yesterday, and for the great contributions to my book. It was so good to have all my friends there. You are all such wonderful women. Love, Marie (Marie)

The teacher librarians shared inside jokes related to their profession, providing levity and a break in the day's events by sharing what Wenger (1998) would call the existence of a shared history or inside joke. Linda forwarded a website which illustrated a library organized by color instead of Dewey Decimal. Marie forwarded a website with everything about Dewey to which Laura responded "Thanks for the Dewey website - very cute."

Teacher Librarians Link with Educational Programs

The third research question was: *How does the engagement of teacher librarians in a community of practice support the development of educational programs?* This question is addressed by referring to Wenger's (1998) modes of belonging: imagination and alignment. Engagement in Livin' the Dream, essentially professional development network, provided opportunities to imagine new ideas and alignment with educational programs thus providing evidence in relationship to the third research question.

Imagination and Alignment link with Educational Programs

As the teacher librarians participated in activities related to imagination and alignment, either together or individually, ideas and support for educational programs permeated back to Livin' the Dream and ultimately their schools.

Imagination

Opportunities to imagine new ideas were created by professional development activities; therefore, curricular support occurs which aligns with educational programs. Data were analyzed for professional development activities of teacher librarians' by the codes described in Table 3.7. Content was analyzed for district, in school and teacher librarian initiated opportunities, as well as evidence of CoP dialogue examples of discussing developments, reusing assets and seeking

experience in relation to professional development activities outside of the Livin' the Dream CoP.

By involvement in professional development and leadership meetings outside of Livin' the Dream, teacher librarians contribute to the development of educational programs. Kathy and Linda both were presenters at two district curriculum leadership meetings. Kathy had developed a curriculum unit on internet safety and cyberbullying in collaboration with another teacher, and presented it at a district curriculum launch. Linda presented an introduction to the curriculum guide she was instrumental in creating, as well as a session on effective research skills using the Internet. By reviewing documents and informal conversations, I learned that Marie and Laura also taught information literacy skills, in particular internet search strategies and website evaluation which aligns with district developed curriculum. In Kathy's monthly report, she reported teaching seven Internet safety lessons. By interacting with Livin' the Dream on and offline, the teacher librarians had integrated into their practice strategies for teaching with the internet, which aligned with the school district's initiative of using the internet as a teaching tool in the classroom.

The following conversations regarding a curriculum developed by the school district shows how participation in Livin' the Dream supported the development of educational programs, lesson ideas for internet safety which had been shared with Livin' the Dream:

> I have been using the web in the classroom materials with a variety of classes... A very worthwhile exercise all round...I started the Internet Safety lessons with the gr. 8's this week and am using the lesson plans from the new Web in the Classroom book (thanks Kathy). It's going very well. (Linda)

> I'm so glad it's a success. I've done it with three CAPP [Career and Personal Planning] 8 classes so far and have also had good results. (Kathy)

Attendance at school district computer contact meetings aligned with district curriculum initiatives in technology and the information literacy component of the library program. Further confirmation of the teacher librarians' involvement with district curriculum initiatives was observed at a computer contacts meeting when the District Vice Principal for technology curriculum commented on the role teacher librarians have assumed in supporting the curriculum.

At a district computer contact meeting, Linda spoke of what she called "tech tips for teachers" which she presents at staff meetings and provided examples of websites and tips she had presented, such as an introduction to a rubric making website, Rubistar, and the highlighting feature in word processing. Linda had also posted a website into the computer contacts' online conference. I observed a teacher from another school commenting on the usefulness of a website Linda had posted to the computer contacts folder, thanking her very much. The day I

observed Linda in her library, an email to her that morning requesting Internet resource assistance began with the greeting "Good morning web woman."

District teacher librarian meetings provide opportunities for Livin' the Dream to align their practices with those described in the library service delivery model. The public librarian also attends these meetings to promote reading initiatives teacher librarians may align with their practice. Teacher librarians could then coordinate their literature appreciation objectives with the public libraries reading program and the school district's literacy focus. An example of this is Kathy's reading group and public librarian visit which were subsequently developed after Linda had reported to Livin' the Dream the presentation made at a district teacher librarian meeting by the public librarian.

During school library observation visits, I informally asked each teacher librarian if she had integrated an idea from the Livin' the Dream CoP into their library program. Kathy mentioned a library lifeline, research process forms, and website recommendations. Laura mentioned fiction pamphlets, book passes, book talks and information literacy teaching ideas. Linda mentioned independent novel studies, resource hunts, contests for staff and students and practical administration ideas. Marie mentioned independent novel studies, display and contest ideas and Can I borrow/Do you know kinds of questions, as well as website referrals.

Alignment

The Livin' the Dream CoP aligns with the educational program through district initiatives and curriculum policies. I analyzed data to see how Livin' the Dream teacher librarian practice supported educational programs. By using the codes described in Table 3.8, I analyzed content for practice linking with the following: curricular policies and district initiatives; the forwarding of related material to other educational partners; and with related attachments and documents.

Alignment to the district library service delivery model was evident through the "engagement" and "imagination" in library practice. Wenger (1998) has commented how "members of a professional group will identify with the actions of their colleagues" (p. 196), similar to the Livin' the Dream CoP.

As mentioned earlier, all Livin' the Dream members provided support to literacy initiatives, which aligns with the school district's focus on reading. Marie stated in her annual report that one of the goals of the library program this year again was to support the School District's goal of improving students' reading proficiency and to implement the Literature Appreciation of the district's school library program. To this end, Marie and the English department at her school established an in school reading program:

> Our program seems to be going well... We read for 17 minutes, right after lunch, every Monday and Friday. The only complaint is that many staff and students want more time to read! We will evaluate the program in the spring, and are following a cohort group of last year's

> Grade 8s, giving them a reading interest survey at the beginning and end of each school year. The survey is simple, but the data input is daunting. (Marie)

In further support of Marie's reading program, Marie received the following email:

> I was very happy to see this letter posted on our conference.
> I wanted to give you some feedback relating to the Sustained Reading Breaks. This week my son in Grade 11 finished reading a book (by Edgar Rice Burroughs, a classic!) at home and asked for more books to read. This may not seem like a big deal BUT he has never voluntarily read anything in his life before despite all my efforts at home with reading to him as a child and promoting the joys of reading. I can only attribute this to the start of the Sustained Reading Breaks at school this year and am so pleased that he has discovered reading for pleasure. As an educator, I am very aware of the importance of literacy and the correlation between reading skills and academic success so I just wanted to say, keep up the great work!
> I'm off to the library.

This email confirms the effect Marie's promotion of a silent reading program had on a student. It can be surmised that this is not an isolated case as can be seen from the independent novel study unit Marie developed with the English teachers in her school.

Janice requested information on reading programs in an effort to put together a proposal for her school.

> Hi Ladies, Sorry about that phantom USSR message. I am wondering which schools in the district participate in USSR? (Janice)

To Janice's request, Marie forwarded Janice 22 document attachments she had compiled about reading research that she had used in the establishment of the reading program at her school.

The following exchange illustrate how the school library program has aligned with the educational focus of particular classroom teachers. When Kathy coordinated the teen book reviewers group, she invited the district librarian in to book talk to grade English nine classes. As a result, a teacher of grade nine English created a reading list which he shared with all staff:

> Hi everyone!
> After we had Andrea (district public librarian) in to booktalk to the grade nine English classes, one of my teachers put this together and sent it to our staff bulletin. You may want to use it with your teachers or students… I've compiled a book list with descriptors/photos of books that are recommended for adolescents by the district library. I'm going to send these home before Christmas with all my English classes. Feel free to type your name in place of mine and distribute as you wish. Many of these books are local/international award winners in youth fiction. The list will fit on a legal size sheet of paper, printed back/back. (Kathy)

Again, this is result of Kathy initiating an idea she developed from an email report of Linda's regarding a district meeting, which in turn a teacher developed into his/her program.

Further to the alignment of teacher librarian practice with district literacy objectives, individual postings to Livin' the Dream were made. Linda forwarded an online article "Why Johnny Won't Read" to Livin' the Dream, her English department, and the district teacher librarian conference; she also forwarded a Powerpoint file of a reading slide show she recommended for a presentation to staff and parent councils. From her website subscription service, Marie forwarded a "Literacy in the Middle Years" webcast from the Ministry of Education to Livin' the Dream and her English department. I reviewed the history of this message in Firstclass and found that the Livin' the Dream teacher librarians had forwarded the webcast email to teachers in their school community.

The following two emails are examples of teacher replies to the forwarding of website references to staff, websites that had been initially shared through Livin' the Dream. This further illustrates alignment with the educational program.

> It always makes helping staff that much sweeter when I get replies like this one: This is timed just right for me. You knew I'm working on the Writing 44 effort, I think. I'm saving all your writing website stuff to put forward at our next meeting. I will happily bring your name forward as a contributor, 'cause gosh knows you're doing as much research as me! (Linda)

> I forwarded this to our staff conference and one of the teachers sent back this message: Pay dirt. The material on consumerism is PERFECT for our Gr. 10, second semester unit on advertising. I say that because it suggested using almost all of the resources we already have, which is encouraging. They had much prettier worksheets, however, and a few new ideas that I'd like to try. Thanks! So you may want to pass it along to your staffs. (Linda)

The following quote indicates that Marie forwarded science websites Linda had shared with Livin' the Dream:

> These are great sites. Thanks, Linda. I have forwarded them to both my Civ 12 teacher and the Science department. The Science guys seldom use the library, but they love the sites I send them, and the articles from magazines and *The National Post*. I live in hope of eventually luring them in here, but in the meantime, the web sites are good PR for the library. (Marie)

Although Marie felt the science department did not use the library, she had brought the library to them, extending her library virtually into their classrooms. As with print resources, Marie recommended Internet resources for curriculum use. To support curriculum objectives, Marie forwarded to Livin' the Dream and applicable departments in her school vetted website recommendations, for example, "The Center for History of Physics" and "Mapping a Planet," and online *National Post* articles from the Discovery.

The teacher librarian's development of library web pages provides additional evidence for links between the work of teacher librarians and the educational program. Linda's website stated "We Never Close," which suggested that library resources are always available online. Commonalities between the pages were information on library services offered, bibliography formats, book lists online, public library database, and magazine and newspaper links. Kathy, Linda, and Marie also linked to each other's web pages to access resources already compiled online. As I noted during an observation, Laura kept a binder of all the vetted websites forwarded to Livin' the Dream for future reference in the development of her library web page. Specific to individual libraries were curricular web links to assignments unique to that staff. In Marie's year-end report, she stated the library maintains a library web page, with supporting websites for teacher assignments as well as research resources and bibliographic information on citing sources in various formats. Janice and Wynn inherited already developed websites and although both expressed an interest in making changes and additions, the time for learning other aspects of being a teacher librarian took precedent. This is evident from Janice's requests for information about library administration and resource recommendations.

Summary

The Livin' the Dream teacher librarians assisted each other in individual endeavours, thus collaborating in support of curriculum initiatives, literature

appreciation and information literacy. By engaging in teacher librarian practice and interacting in meaningful activities, the teacher librarians of Livin' the Dream have created opportunities to imagine new ideas.

Professional development opportunities provided the Livin' the Dream CoP exposure to new ideas, which spark imagination. The teacher librarians of Livin' the Dream supported each other in the alignment of their practice with district initiatives and curriculum policies, such as the district's reading focus and internet curriculum. Examples of imagination and alignment illustrated how the teacher librarian CoP correlated to benefits to educational programs.

This chapter reported the data collected and the findings in relation to Wenger's (1998) modes of belonging. Through these, engagement, imagination, and alignment, the teacher librarians illustrated their CoP identity by engaging in activities related to curriculum support and professional development, that influenced the development of educational programs in the school. Therefore, Wenger's "modes of belonging" provide explanations for the second and third research questions: how do teacher librarians engage in a CoP and collaborative activities related to curriculum support and professional development? How does the engagement of teacher librarians in a community of practice support the development of educational programs?

Chapter 6
Discussion

This thesis began with a consideration of how the nature and role of teacher librarianship are changing in an era that is increasingly influenced by information and communication technology (ICT). Cultivating skills for acquiring knowledge is becoming the centerpiece of education in the technologically-rich knowledge age (Trilling & Hood, 1999). There is evidence for this trend in the recent implementation of national standards for library programs, as well as in the literature (AASL & AECT: American Association of School Librarians and Association for Educational Communications and Technology, 1998; Asselin, Branch, & Oberg Eds., 2003; ATLA & CLA: Association for Teacher-Librarianship in Canada and the Canadian School Library Association, 1997). At the same time, provincial funding across Canada for school library programs is decreasing (BCTLA: British Columbia Teacher Librarians Association, 2003, Doiron & Paul, 2001, Haycock, 2003). Thus, it is crucial to document the work of teacher librarians in this era of change, and to show how teacher librarians contribute to school programs. As McCracken (2001) points out, teacher librarians support the educational program in relative isolation within a school community, being a department unto themselves without collaborative partners. The contribution teacher librarians and the school library program provide to the educational program is often unnoticed (Hartzell, 1997).

Following others (Hawkes, 2000; Kozma & Shank, 1999), I suggested that ICT provides new avenues and opportunities to engage in collaboration and professional development, and so I studied aspects of the work of a group of six teacher librarians over a period of five months, using a descriptive case study method (Yin, 2003b). The premise of the study was that researching the work of teacher librarians in detail—it was hypothesized as a "practice" that characterizes a community of practice (Lave & Wenger, 1991; Wenger, 1998)—could alleviate this isolation, and make the value and changing role of teacher librarians more evident. I addressed the following research questions:

1. Are the teacher librarians of Livin' the Dream a CoP?
2. How do teacher librarians engage in a CoP and collaborative activities related to curriculum support and professional development?
3. How does the engagement of teacher librarians in a CoP support the development of educational programs?

To investigate these questions, I observed six teacher librarians, who called themselves "Livin' the Dream," at their places of work, observed them at their meetings, studied the documents they produced, and studied their email exchanges. As a member of this group, I refrained from participating in the email exchanges during the study, but attended meetings of the school district in which teacher librarians participated, and included my notes from such meetings in the study.

This chapter discusses the findings of the study. The next two sections summarize the findings. This is followed by sections that discuss (a) how the study

adds to the literature, (b) the limitations of the study, and (c) implications for further research and practice. The final section provides a brief conclusion.

Livin' the Dream as a Community of Practice

Chapter 4 reported the findings for the first research question: *Are the teacher librarians of Livin' the Dream a community of practice (CoP)*? To investigate this question, the Liv'in the Dream email communication were analyzed by two methods—content analysis and conversation analysis. The content analysis examined evidence for the three indicators of a CoP Wenger (n.d.) considered most critical: domain, community, and practice. The domain is the expertise of teacher librarian practice; the community is formed as a result of the teacher librarians engaged in their domain, being involved in joint activities, and in discussions and the sharing of information; and the practice is the shared repertoire of experiences, stories, methods of dealing with recurring problems involved in the practice of their domain. The domain of teacher librarians was the school library program and the function of providing educational support to the school community and curricular programs. The three dimensions of a CoP (mutual engagement, joint enterprise, and shared repertoire) were elements of the domain, community and practice, thus providing further evidence a CoP exists.

The teacher librarians demonstrated an established domain, community, and practice by mutually engaging in the development of a school library program, collaborating on joint tasks and sharing related practice in their repertoire. There

was evidence of this in the similar administration procedures each had adopted (library circulation procedures, computer log-in instructions), the sharing of literature promotion ideas (Books for Boys, Pageturners) and information literacy lessons (Internet Safety, What is Plagiarism exercises). In addition to these examples, I found there was evidence from the teacher librarians' daily contact in the development of library program components: library administration, curriculum support, information literacy and literature appreciation. Working together, the teacher librarians of Livin' the Dream were able to gain valuable information and resources to share with their teachers. It was concluded that the Livin' the Dream group did match the characteristics of a CoP.

I found the conversation analysis provided further evidence that a CoP existed. By studying the spoken interactions of Livin' the Dream, the relationships, both professional and personally, were demonstrated. There was evidence that Livin' the Dream had developed a positive working relationship indicated by lack of repairs, smoothers, disagreements, and reject spoken interactions. Their positive working relationship was reflected in the high incidences of primary act questions for information and confirmation and the suggestions, requests for actions, and confirming of information. These primary acts link with Wenger's (n.d.) dialogue examples of discussing developments, requesting information, reusing assets, and seeking experience. Wenger (1998) discussed that CoP interaction is indicated by a familiarity with each other. This was exemplified by the absence of opening and closing remarks and the positive tone of conversation. As was further suggested by

the conversation analysis, members of Livin' the Dream provided greetings, however, closing remarks were rarely included.

The Identity of Livin' the Dream

With Livin' the Dream established as a community of practice, Chapter 5 reported the findings for the second and third research questions. The second research question was: *How do teacher librarians engage in a community of practice and collaborative activities related to curriculum support and professional development?* The teacher librarians had established an identity for their CoP as exemplified through Wenger's (1998) "modes of belonging": engagement, imagination, and alignment. Engagement creates an identity for CoP members as they engage in their practice: discussing, interacting, producing artifacts and negotiating new situations. The teacher librarians of Livin' the Dream collaborated to produce individual novel study units and information literacy lessons, while at the same time sharing library administration practices such as circulation procedures and computer maintenance. Furthermore, the teacher librarians negotiated their involvement and position on the School Library Advisory Committee. Imagination involves the ability to explore, take risks and create unlikely connections. Evidence of imagination could be noted by the teacher librarians taking an idea from a professional development activity, such as a district curriculum meeting or Livin' the Dream, and then adapting it to their school library program, such as the development of reading programs or internet curriculum integration lessons. Alignment requires the ability to coordinate

perspectives with common purpose such as a district reading focus or district internet curriculum integration focus in which the teacher librarians showed evidence of supporting and creating foci in their program.

By engaging in activities related to curriculum support and professional development, attending district meetings, participating daily in Livin' the Dream, the teacher librarians provided support to the development of educational programs in the school. The teacher librarians assisted each other in individual endeavors thus by collaborating on curriculum initiatives, literature appreciation and information literacy. By engaging in teacher librarian practice and interacting in meaningful activities, together the teacher librarians of Livin' the Dream created situations in which opportunities for imagination occur.

Having documented the nature of the teacher librarians' practices, I addressed the third question: *How does the engagement of teacher librarians in a community of practice support the development of educational programs?* In addition to the alignment with and enrichment of district curriculum initiatives in reading and information literacy, the teacher librarians in Livin' the Dream supported the individual teachers and department-specific foci. Support provided to teachers was illustrated by the emails received thanking the teacher librarian for the 'most perfect resource' for her unit. It was also illustrated by the development of school library websites, including resources aligning to specific assignments. The fifty forwarded websites to departments in support of subject area foci and the online news articles forwarded to

humanities and science departments provided additional evidence of correlation to the development of educational programs.

Professional development opportunities provided the Livin' the Dream CoP exposure to new ideas which could be developed to align with district initiatives. For example, the reading group Kathy developed came from an idea from a district teacher librarians' meeting. These new ideas would often spark the imagination to develop a curricular integration idea, such as a reading theme suggestion to teachers or an idea for an internet use lesson. The teacher librarians of Livin' the Dream supported each other in the alignment of their practice with district initiatives and curriculum policies, such as the district's reading focus and web in the classroom curriculum. How the teacher librarian CoP supports the educational programs can be illustrated through examples of imagination and alignment.

While we can infer from the exchange of information and ideas that the forwarding of resources to teachers from the teacher librarian CoP, and the comments received in return from teachers about the usefulness of these resources did support the development of educational programs, this benefit remains largely invisible.

Situating the Findings in the Literature

Why is the focus of this study important? First, such a study demonstrates how a teacher librarians work together in support of the educational program. At a

time when only some schools and districts have teacher librarians, highlighting the value they add to the educational programs is important. Second, the study provides evidence about how ICT enabled the kind of interaction that was shown to be the foundation of a CoP. The Livin' the Dream developed into a source for professional development just as described by Sherer, Shea, and Kristensen (2003) and Yagamata-Lynch's (2001). Their studies suggest that CoP's can be used to analyze current practices without Livin' the Dream, the teacher librarians would be a department unto themselves, developing a program in isolation, as indicated by McCracken (2001). This study adds to the literature by complementing McCracken (2001) and Lowe (2001) by first acknowledging their comments about the changing role of the teacher librarian in relation to ICT, and then illustrating strategies to assist in this role change by engaging in a CoP. In Livin' the Dream, the teacher librarians shared many technology tips, both technical and curricular, indicating new sources of information in the knowledge age.

Some may argue that Livin' the Dream is not a CoP, rather a network sharing information. Yet the practice of teacher librarians is that of being the information specialist in the school; sharing information is their practice. Furthermore, there was evidence that the Livin' the Dream group went far beyond information sharing by taking the information shared and integrating it into practice by learning new strategies, developing new lesson ideas, adopting new practices, passing on resources and information to their teaching staff, thus supporting the educational program. As well, members of Livin' the Dream supported each other to develop their new role,

which Johnson (2003, 1997) calls "The Virtual Librarian." In this role, teacher librarians are staff trainers of computer applications, electronic information evaluators and selectors and the school library website developers.

Further to the ICT role of teacher librarians, in May 2005 Statistics Canada published a report Canadian School Libraries and Teacher-Librarians: Results from 2003/04 Information and Communications Technologies in Schools Survey, which discusses a subset of the data collected on a nation-wide survey conducted about information and communication technology integration in education in Canadian schools. Four questions on school libraries were included in the questionnaire. These questions examined whether a school library exists, the number of full time employees devoted to the library by type of position, the annual expenses for the library's collection development and the source of library funding. The study examined the practice of teacher librarians in relation to ICT, thus substantiating the role teacher librarians have in integrating ICT to the educational program.

The Statistics Canada study found there to be a positive relationship between having a full time teacher librarian on staff and the incorporation of "specialized" technology applications into teaching practices. Livin' the Dream showed evidence of incorporating specialist technology applications into teaching practices when teacher librarians taught teaching staff and students certain applications such as PowerPoint. Although Statistics Canada could not establish a direct link between the presence of a teacher librarian and links to the library on the school website, it is

likely that they are related. That is, the presence of an active school librarian is likely to facilitate the exchange of information about the school library, through means such as the school website. Livin' the Dream teacher librarians were found to be developing school library websites for access to resources for research assignments. Statistics Canada discussed the teacher librarian as a key player in the development and dissemination of information by the importance of the school librarian as a developer or contributor to the school website. The Livin' the Dream CoP forwarded online current event articles to teachers, articles which linked to teacher's specific curriculum foci. Fifty postings were forwarded to departments in the schools, the majority of which included website recommendations. The website recommendations further illustrates the findings of the Statistics Canada study that schools with full time librarians contribute to school web resources, and "that the influence of the teacher librarian extends into other realms of the school and therefore the students education" (Statistics Canada, 2005, p. 35).

The Statistics Canada report correlates the work of a teacher librarian with the development of information and communication technology in the educational program. Teacher librarians are poised to take a leadership role in curricular applications in relation to ICT (AASL & AECT, 1998; ATLA & CLA, 1997; Asselin, Branch, & Oberg, 2003; Haycock, 2003; Johnson, 2002; Lance & Loertscher, 2003; Latrobe, 2001b; McCracken, 2002; Shannon, 2002). Technology in education is a prevalent learning tool; in teaching others, either students or colleagues to technology resources, teacher librarians can assume this role as is evident from the

Livin the Dream CoP. There is an opportunity for teacher librarians to profile their skills as information specialists, as "virtual librarians" or as "knowledge managers," combining tradition library practices with information and communication technology. Teacher librarians would do well to envisage themselves as Johnson's (1997) "virtual librarian" who combines the information specialist skills with technology skills or Todd and Southon's (2000) "knowledge managers" which illustrates a focus on information management as opposed to technical management.

Shumar and Renninger (2002) discussed how even those who are not participants in virtual communities are affected by changed ideas about and experiences of community (p. 13). This was exemplified in the study by the forwarding of resources to the school community shared by the Livin' the Dream CoP. Wenger, McDermott and Snyder (2002) also discussed the advantages of having a community librarian both as a resource person and as an information organizer (p. 103). This is similar to the advantage of having a teacher librarian available as a resource person as illustrated in the emails from teachers thanking teacher librarians for resources forwarded.

Beynon, Grout, and Wideen (2004) applied Lave and Wenger's (1991) CoP to a university professional development teacher training program. This program included faculty associates who were practicing teachers and students practicing to become teachers. Lave and Wenger's idea of individuals learning in and though communities of practice, where participants are both teachers and learners, aligned

with the work setting they studied (Beynon et al, p, 20), similar to that of the teacher librarians who were participants as both teacher librarians and learners in the Livin' the Dream CoP.

Finally, there have been numerous studies that have found collaboration between teacher librarians and teachers positively influence the educational program. This collaboration clearly would not exist without teacher librarians. A study highlighting the work of teacher librarians adds to the literature by elucidating how this collaboration is facilitated.

Limitations of the Study

I briefly discuss three limitations of the study: (a) the short duration and small sample size, (b) my choice to use a case study methodology, and (c) my choice to use a reductionist form of case study.

One limitation of the study is that it took place over a relatively short period: a five month period from September 2004 to February 2005. Some may say this is too brief to determine the existence of a CoP. It should be noted, however, that the teacher librarians have been collaborating since the school district's guidelines for school library programs were implemented three years prior to the study. A previous working relationship existed among the teacher librarians, but not necessarily one defined as a CoP. Therefore, is Livin' the Dream a CoP? Can this group be called a "community"? Communities are generally considered to be large

groups of people; however, Wenger (n.d.) states that communities of practice can be quite small, which is reiterated by Riel and Polin (2004), who assert a practice-based community can be as narrow as a department in a single school.

Additionally, communities change over time (Traweek, 1988, cited in Barab, Kling, & Gray, 2004). One question is whether the CoP sustained itself after the study. At the time I wrote this chapter, six months had passed since the last data were collected. However, informal encounters since that time suggest that the group is able to regenerate itself. After the end of the study, both Janice and Wynn, the new comers to teacher librarianship, had contributed to the knowledge of the community by recommending resources, creating reading lists and attending teacher librarian meetings, both district and Livin' the Dream. Janice also promoted the development of a school-wide silent reading block at her school, which was integrated into the school timetable for the 2005-2006 school year. Wynn arranged for author visits in her library and shared themed reading lists she created with Livin' the Dream. As exemplified by the above examples, Janice and Wynn moved beyond legitimate peripheral participation to full participation in Livin' the Dream, engaged in the practice of the CoP. As a result of her experience as a teacher librarian, Janice had begun taking courses to obtain a diploma in teacher librarianship.

A study of a community needs to be a study of its culture, and that would suggest an ethnographic approach (Gall, Gall, & Borg, 1999, p. 329). A case study approach does not usually involve—and it did not involve it in my study—"living in

the culture." Thus it could be argued that the data of my study were not sufficiently rich to document the work of teacher librarians. It should be noted that the story of the Livin' the Dream teacher librarians both professionally and personally, seems beyond the case study protocol. Had I conducted an ethnographic study, more of their story could have been included.

There are many varieties of case studies; the method I chose was toward the "reductionist" end of the spectrum and involved reducing relatively rich data to data displays such as frequency tables, as advocated by Miles and Huberman (1994). Within such an approach, the usefulness of the study could have been improved by creating additional narrative accounts of the data analysis and by subjecting the entire study to an external audit (Huberman & Miles, 1994). Furthermore, the possibility of having a second coder code some of the data independently would allow for checking of consistency between the coders.

Given the qualitative focus of this study, the results of this study are expected to be generalizable to another school district's library programs if the setting and participants were similar. Although the findings of this case study do suggest that the very presence of a teacher librarian who is assigned full time to develop a library program provides enrichment to the overall educational program.

The practice of teacher librarians may be simply considered "common sense." All the more reason it is crucial to document their work. As staffing ratios for teacher librarians are depleting and fewer schools have teacher librarians, the

work they do as simply "common sense" remains invisible and simply disappears. The notion of a community of practice is useful in explaining the work of teacher librarians in that if a teacher librarian did not exist then this enrichment of curricular initiatives would not, obviously, occur. Furthermore, engaging in a community of practice is a choice, not a given; therefore, by demonstrating the value of this engagement, teacher librarians in other districts may develop their own community of practice.

Implications for Research and Practice

The study has several implications for further research and practice. Practice is context-bound to the situation of the study. How might this practice change in another context? For example, this present study could be extended by a study of the practice of elementary teacher librarians and how they may integrate ICT into their practice. Does a CoP exist among elementary teacher librarians and if so, how does this correlate to the educational program?

Since CoPs are influenced by the organizations to which they belong, a study including other educational partners, teachers and administrators, would be useful to assess use, needs, and perceptions of school library programs and teacher librarians. This would assist in aligning the school library program with specific needs and educational goals. A study such as this would allow for investigating what Wenger (1998) calls the constellations of practice, looking at the interconnections of teacher librarian practice with classroom teacher practice and administrator practice.

This study demonstrated that teacher librarians provide support for the educational program. The Statistics Canada Report (2005) indicates there is a correlation between a school library program, its integration of information and communication technology and the existence of a full time teacher librarian. In 2002, the British Columbia provincial government enacted *Bill 28, The Public Education Flexibility and Choice Act.* This act removed the staffing ratios for teacher librarians and other non-enrolling teachers from collective agreements. What are the effects of Bill 28 on school library programs? What about schools without teacher librarians? Is there a school library program in place? What kind of enrichment to curriculum occurs?

Multi-state studies by Lance et al (2000) utilized available data which were cross referenced as controlled variables to school library surveys. It is evident, and reiterated by Haycock (2003), that there are no comparable Canadian province-wide studies of school libraries and achievement. Oberg (2002) further suggested compiling research, looking at the evidence of school libraries improving student achievement. In British Columbia, similar available data may be accessible from the Foundation Skills Assessment (FSA) and other government exams. Furthermore, the British Columbia Teacher Librarian's Association (BCTLA) surveys the working and learning conditions of school library resource centers each year. These statistics have been compiled since 1985. A similar correlation of results may be identified.

The Livin' the Dream CoP exemplified the enrichment that teacher librarians provide to the educational program, but there is a current trend towards the reduction of funding for school libraries (BCTLA, 2003; Haycock, 2003). The implications of reduced funding for teacher librarian staffing would result in a loss of one source of professional support for the educational program. Therefore, the findings of this study can be shared with the school board to make the case for retaining teacher librarians at present staffing ratios given the contributions to student learning and curricular enhancement made by teacher librarians. Sharing with the school board a description of the leadership and support teacher librarians have provided to district initiatives, as well as the 'behind the scenes' enrichment to the school curriculum would presumably provide evidence for keeping present staffing ratios. This study could further be shared with teacher librarians in other school districts as an example of how to maintain viable library programs in an increasingly changing educational environment.

Conclusion

A descriptive case study method was applied to investigate how a group of teacher librarians in a CoP support educational programs. According to Wenger (2000), since communities of practice are informal in nature, they have remained largely invisible within organizations (pp. 4-5). Such is the case for teacher librarians who support the educational program in relative isolation within the school. While teacher librarians appear to be isolated, the connections they can make within a

community of practice of teacher librarians enhance the educational program of the school. Wenger (1998) states that CoPs are forces to be reckoned with: "As a locus of engagement in action, interpersonal relations, shared knowledge, and negotiation of enterprises, such communities hold the key to real transformation – the kind that has real effects on people's lives"(p. 85). Wenger's CoP social learning theory provides a useful lens through which to examine the practice of the Livin' the Dream teacher librarians.

Teacher librarians are the facilitators of the school library program. The United Nations Educational, Scientific and Cultural Organization (UNESCO) IFLA, 2000) School Library Manifesto states that:

> The school library provides information and ideas that are fundamental to functioning successfully in today's society, which is increasingly information knowledge-based. The school library equips students with lifelong learning skills and develops the imagination, enabling them to live as responsible citizens. (p. 1)

Teacher librarians are the interface who make this happen. This teacher librarian's CoP is Livin' the Dream.

References

Adler, P. A., & Adler, P. (1998). Observational techniques. In N. K. Denzin & Y. S. Lincoln (Eds.), *Collecting and Interpreting Qualitative Materials* (pp. 79-109). Thousand Oaks, CA: Sage Publications.

American Association of School Librarians and Association for Educational Communications and Technology. (1998). *Information power: Building partnerships for learning.* Chicago, IL: American Library Association.

Angrosino, M. V., & de Perez, K. A. (2000). Rethinking observation: From method to context. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research*, 2nd ed. (pp. 673-702). Thousand Oaks, CA: Sage Publications.

Anklam, P. (2002). Knowledge management: The collaboration thread [Electronic version]. *Bulletin of the American Society for Information Science and Technology, 28* (6), 8-11.

Arminen, I. (1999). Conversation analysis: A quest for order in social interaction and language use [Electronic version]. *ACTA Sociologica, 42*, 251- 257.

Asselin, M., Branch, J. L., & Oberg, D. (Eds.). (2003). *Achieving information literacy: Standards for school library programs in Canada.* Ottawa, Canada: The Canadian School Library Association and The Association of Teacher-Librarianship in Canada.

Association for Teacher-Librarianship in Canada and the Canadian School Library Association. (1997). *Students' information literacy needs in the 21st century: Competencies for teacher librarians.* Retrieved July 10, 2003, from http://www.cla.ca/divisions/csla/pub_2.htm

Barab, S. A., Kling, R., & Gray, J. H. (Eds.). (2004). *Designing for Virtual Communities in the Service of Learning.* Cambridge, UK: Cambridge University Press.

Barron, D. D. (2000). Knowledge management for the new millenium: The next step for school library media specialists. *School Library Media Activities Monthly, 16* (5), 48-51.

Barron, D. D. (2003). The curse of the invisible library media specialist. *School Library Media Activities Monthly, 19* (5), 48-51.

Beynon. J., Grout, J., & Wideen, M. (2004). From teacher to teacher educator: Collaboration within a community of practice. Vancouver, Canada: Pacific Educational Press.

Bianco, M., & Carr-Chellman, A. A. (2002). Exploring qualitative methodologies in online learning environments [Electronic version]. *The Quarterly Review of Distance Education, 3*, 251-260.

Bielaczyc, K., & Collins, A. (1999). Learning communities in classrooms: A Reconceptualization of educational practice. In C.M. Reigeluth (Ed.), *Instructional design theories and models, Vol. II: A New Paradigm of Instructional Theory* (pp. 269-292). Mahwah, NJ: Lawrence Erlbaum Associates.

Blaxter, L., Hughes, C., and Tight, M. (2001). *How to research.* 2nd ed. Buckingham, UK: Open University Press.

Branch, J.L. & Oberg, D. (2001). The teacher librarian in the 21st century: The teacher librarian as instructional leader. *School Libraries in Canada, 21* (2), 9-10.

Brem, S.K. (2002). Analyzing online discussion: Ethics, data and interpretation. *Practical Assessment, Research and Evaluation, 8*(3). Retrieved May 3, 2005, from http://paraonline.net/getvn.asp?v=8&n=3

British Columbia Teacher Librarians Association. (2003). *Working and learning conditions.* [Special issue]. *The Bookmark, 44* (3).

British Columbia Ministry of Education. *Bill 28: Public Flexibility and Choice Act.* Retrieved July 20, 2003 from http://www.legis.gov.bc.ca/37th2nd/ 3rd_read/gov28-3.htm

Brown, J. S., & Duguid, P. (2000). Organizational learning and communities of practice: Toward a unified view of working, learning, and innovation. In E. L. Lesser, M. A. Fontaine, & J. A. Slusher (Eds.), *Knowledge and Communities* (pp. 99-121). Boston, MA: Butterworth Heinemann.

Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher, 18* (1), 34-41.

Buysse, V., Sparkman, K. L., & Wesley, P. W. (2003). Communities of practice: Connecting what we know with what we do [Electronic version]. *Exceptional Children, 69,* 262-277.

Coffey, A., & Atkinson, P. (1996). *Making sense of qualitative data: Complementary research strategies.* Thousand Oaks, CA: Sage Publications.

Conlin, T. & Simpson, M. (2003). Silicon valley versus silicon glen: The impact of computers upon teaching and learning: A comparative study [Electronic version]. *British Journal of Education Technology, 34* (2), 137-150.

Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into Practice, 39* (3), 124-131.

Davenport, E., & Hall, H. (2002). Organizational knowledge and communities of practice. *Annual Review of Information Science and Technology, 36*, 171-227.

Denzin, N. K., & Lincoln, Y. S. (2000). Introduction: The discipline and practice of qualitative research. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research*, 2nd ed. (pp. 1-28). Thousand Oaks, CA: Sage Publications.

Dewey, M. (1876). The Profession. *American Library Journal*, 1, 5-6.

Doiron, D., & Paul, K. (2001). Cold facts and hot buttons: The truth about school libraries in Canada. *School Libraries in Canada, 21* (2), 23-24.

Electronic Data Systems (EDS). *Cat Herding,* Retrieved June 3, 2003, from http://www.eds.com/advertising/advertising_tv_catherding.shtml

Eisenberg, M. B., & Milbury, P. (1996) LM_NET: Helping School Library Media Specialists to Shape the Networking Revolution in the Schools. In C. C. Kuhlthau (Ed.), *The Virtual School Library: Gateway to the Information Superhighway* (pp. 29-49). Englewood, CO: Libraries Unlimited, Inc.

Erickson, F. (1986). Qualitative methods in research on teaching. In M. C. Wittrock (Ed.), Handbook of Research on Teaching, 3rd ed., (pp. 119-161). New York: MacMillan Publishing Company.

Feret, B., & Marcinek, M. (1999). The future of the academic library and the academic librarian: A delphi study [Electronic version]. *Librarian Career Development, (7)* 10, 91-111.

Gall, J. P., Gall, M. D., & Borg, W. R. (1999). *Applying Educational Research: A practical guide.* 4th ed. New York: Addison Wesley Longman.

Gallucci, C. (2003). *Theorizing about teachers' response to reform: The role of communities of practice. An occasional paper.* Seattle, WA: Center for the Study of Teaching and Policy, University of Washington. (ERIC Document Reproduction Service No. ED480033).

Halthorn, L. G., & Ingram, A. L. (2002). Cooperation and collaboration using computer-mediated communication [Electronic version]. *Journal Educational Computing Research, 26* (3), 325-347.

Hartzell, G. N. (1997). The invisible school librarian: Why other educators are blind to your value. *School Library Journal, 43* (11), 24-29.

Hartzell, G. N. (2001). The implications of selected school reform approaches for school library media services. *School Library Media Research.* Retrieved July 10, 2003, from http://www.ala.org/Content/NavigationMenu/AASL/ Publications_and_Journals/ School_Library_Media_Research/Contents1/ Volume_4_(2001)/Hartzell.htm

Hartzell, G. N. (2002). What's it take? Paper presented at the June 4, 2002 White House Conference on School Libraries. *Teacher Librarian, 20* (Supp. 1), 81-84.

Hawkes, M. (2000). Structuring computer-mediated communication for collaborative teacher development. *Journal of Research and Development in Education, 33,* 268-277.

Haycock, K. (2001). Role and role dilemmas: New challenges for teacher librarians? *School Libraries in Canada, 21* (2), 3-4.

Haycock, K. (2003). *The crisis in Canada's school libraries: The case for reform and re- investment.* Toronto, Ontario: Association of Canadian Publishers.

Hodder, I. (2000). The interpretation of documents and material culture. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research,* 2nd ed. (pp. 703-715). Thousand Oaks, CA: Sage Publications.

Huberman, A. M., & Miles, M. (1994). Data management and analysis methods. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 428-444). London: Sage Publications, Inc.

International Federation of Library Associations and Institutions. (2000). UNESCO school library manifesto. Ottawa, ON: National Library of Canada.

Iverson, J. O., & McPhee, R. D. (2002). Knowledge management in communities of practice [Electronic version]. *Management Communication Quarterly: McQ, 16* (2), 259-267.

Johnson, C. M. (2001). A survey of current research on online communities of practice [Electronic version]. *The Internet and Higher Education, 4* (1), 45-60

Johnson, D. (2003). Becoming indispensible [Electronic version]. *School Library Journal, 49* (2), 3.

Johnson, D. (2002). The seven most critical challenges facing our profession. *Teacher Librarian, 29* (5), 21-23.

Johnson, D. (1997). *The indispensible librarian: Surviving (and thriving) in school media centers in the information age.* Worthington, Ohio: Linworth Publishing.

Johnson, R. B. (1997). Examining the validity structure of qualitative research. *Education, 118* (2), 282-292.

Kozma, R., & Schank, P. (1998). Connecting with the 21st Century: Technology in Support of Educational Reform. In C. Dede (Ed.), *ASCD Yearbook 1998: Learning with Technology* (pp. 3-27). Alexandria, VA: Association for Supervision of Curriculum Development.

Kuhlthau, C. C. (1987). An emerging theory of library instruction. *School Library Media Quarterly, 16* (1), 23-28.

Kuhlthau, C. C. (1995). The instructional role of the library media specialist in the information-age school. In *Information for a new age: Redefining the librarian.* Compiled by Fifteenth Anniversary Task Force, Library Instruction Round Table, ALA. A LIRT 15th Anniversary Publication (pp. 47-55). Englewood, CO: Libraries Unlimited, Inc.

Kuhlthau, C. C. (1999). Literacy and Learning for the Information Age. In B. K. Stripling (Ed.), *Learning and Libraries in an Information Age: Principles and Practice* (pp. 3-21). Englewood, CO: Libraries Unlimited, Inc.

Lance, K. C., & Loertscher, D. V. (2003). *Powering achievement: School library media programs make a difference the evidence.* 2nd ed. San Jose, CA: Hi Willow Research & Publishing.

Lance, K. C., Rodney, M. J., & Hamilton-Pennell, C. (2000). *Measuring up to standards: The impact of school library programs and information literacy in Pennsylvania Schools.* Pennsylvania Department of Education. Retrieved October 19, 2003, from http://www.statelibrary.state.pa.us/libraries/ lib/libraries/measuringup.pdf

Latrobe, K. (2001a). Assessing the school library media program and its partnerships. *School Library Media Research*, Retrieved July 20, 2003, from http://www.ala.org/ala/aasl/aaslpubsandjournals/slmrb/slmrcontents/volume42001/action_appendix.pdf

Latrobe, K. (2001b). A case study of one district's implementation of Information Power. *School Library Media Research*, Retrieved July 20, 2003, from http://www.ala.org/Content/NavigationMenu/AASL/Publications_and_Journals/School_Library_Media_Research/Contents1/Volume_4_(2001)/Latrobe.htm

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripherial participation.* Cambridge, MA: Cambridge University Press.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry.* Beverly Hills, CA: Sage.

Lincoln, Y. S., & Guba, E. G. (2000). Paradigmatic controversies, contradictions, and emerging confluences. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research*, 2nd ed. (pp. 163-188). Thousand Oaks, CA: Sage Publications.

Loertscher, D. V., & Woolls, B. (2002). *Information literacy: A review of the research a guide for practitioners and researchers.* 2nd ed. San Jose, CA: Hi Willow Research and Publishing.

Lowe, C. (2001). The role of the media specialist in the 21st century [Electronic version]. *Teacher Librarian, 29* (1), 30-34.

Maxwell, J. A. (1996). *Qualitative research design: An interactive approach.* Thousand Oaks, CA: Sage Publications.

Mazur, J. (2004). Conversation analysis for educational technologists: Theoretical and methodological issues for researching the structures, processes, and meaning of on-line talk. In D. H. Jonassen (Ed.), *Handbook of Research on Educational Communications and Technology*, 2nd ed., (pp. 1073-1098). Mahwah, NJ: Lawrence Erlbaum Associates.

McCracken, A. (2001). School library media specialists' perceptions of practice and importance of roles described in Information Power. *School Library Media Research,* Retrieved July 10, 2003, from http://www.ala.org/Content/NavigationMenu/AASL/ Publications_ and_Journals/ School_Library_ Media_ Research/ Contents1/Volume_4_(2001)/McCracken.htm

McDermott, R. (2000). Why information technology inspired but cannot deliver knowledge management. In E. L. Lesser, M. A. Fontaine, & J. A. Slusher (Eds.), *Knowledge and communities* (pp. 21-35). Boston, MA: Butterworth Heinemann.

Merriam, S. B. (1998). *Qualitative research and case study applications in education.* San Francisco, CA: Jossey-Bass Publishers.

Miles, M. B. & Hubeman, A. M. (1994). *Qualitative data analysis: An expanded source book.* 2nd ed. CA: Sage.

Muhr, T. (2004). User's Manual for ATLAS.ti 5.0, ATLAS.ti Scientific Software Development GmbH, Berlin.

Muronaga, K., & Harada, V. (1999). The art of collaboration [Electronic version]. *Teacher Librarian, 2 7(1),* 9-15.

Negretti, N. (1999). Web-based activities and sla: A conversation analysis research approach [Electronic version]. *Language Learning and Technology, 3* (1), 75-87.

Neuage, T. (2004). Conversational analysis of chatroom talk. Unpublished doctoral dissertation, University of South Australia. Retrieved April 15, 2005, from http:// Neuage.spymac.net/thesis/All.htm

Neuman, D. (2003). Research in school library media for the next decade: Polishing the diamond [Electronic version]. *Library Trends, 51* (4), 503-524.

Oberg, D. (2002). Looking for the evidence: Do school libraries improve student achievement? *School Libraries in Canada, 22*(2), 10-13.

Ohlund, B., Ho Yu, C., Jannasch-Pennell, A., & DiGangi, S. A. (2000). Impact of asynchronous and synchronous internet-based communication on collaboration and performance among K-12 teachers [Electronic version]. *Journal of Educational Computing Research, 23*(4), 405-420.

Open Text Corporation. FirstClass Communications Platform. Available from http://www.firstclass.com

Renninger, K. A., & Shumar, W. (2002a). Community building with and for teachers at the math forum. In K. A. Renninger & W. Shumar (Eds.), *Building virtual communities: Learning and change in cyberspace* (pp. 60-95). Cambridge, UK: Cambridge University Press.

Resnick, L. B. (1987). Learning in school and out. *Educational Researcher, 16* (9) 13-20.

Rice-Lively, M. L., & Racine, J. D. (1997). The role of the academic librarians in the era of information technology [Electronic version]. *The Journal of Academic Librarianship, 23* (1), 31-41.

Riel, M., & Polin, L. (2004). Online learning communities: Common ground and critical differences in designing technical environments. In S. A. Barab, R. Kling, & J. H. Gray (Eds.), *Designing for Virtual Communities in the Service of Learning,* (pp. 16-50). Cambridge, UK: Cambridge University Press.

Rogers, J. (2000). Communities of practice: A framework for fostering coherence in virtual learning communities [Electronic version]. *Educational Technology and Society, 3*, 384-392.

Rogoff, B. (1994). Developing understanding of the idea of communities of learners. *Mind, Culture, and Activity, 1*, 209-229.

Romiszowski, A., & Mason, R. (2004). Computer-mediated communication. In D. H. Jonassen (Ed.), *Handbook of Research on Educational Communications and Technology*, 2nd ed., (pp. 397-431). Mahwah, N.J.: Lawrence Erlbaum Associates.

Russell, S. (2002). Teachers and librarians: Collaborative relationships [Electronic version]. *Teacher Librarian, 29* (5), 35-38.

Ryan, G. W., & Bernard, H. R. (2000). Data management and analysis methods. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research*, 2nd ed. (pp. 760-802). Thousand Oaks, CA: Sage Publications.

Schulager, M. S., Fusco, J., & Schank, P. (2002). Evolution of an online education community of practice. In K. A. Renninger & W. Shumar (Eds.), *Building virtual communities: Learning and change in cyberspace* (pp. 129-158). Cambridge, UK: Cambridge University Press.

Schultze, U. (2000). A confessional account of an ethnography about knowledge work [Electronic version]. *MIS Quarterly, 24* (1), 3-42.

Shannon, D. (2002). The education and competencies of school library media specialists: A review of the literature. *School Library Media Research.* Retrieved July 10, 2003, from http://www.ala.org/Content/NavigationMenu/AASL/ Publications_and_Journals/ School_Library_Media_Research/Contents1/ Volume_5_(2002)/Shannon.htm

Sherer, P. D., Shea, T. P., & Kristensen, E. (2003). Online communities of practice: A catalyst for faculty development [Electronic version]. *Innovative Higher Education, 27*, 183-194.

Shumar, W., & Renninger, K. A. (2002). Introduction: On conceptualizing community. In K. A. Renninger & W. Shumar (Eds.), *Building virtual communities: Learning and change in cyberspace* (pp. 1-17). Cambridge, UK: Cambridge University Press.

Silverman, D. (1998). *Harvey sacks: Social science and conversational analysis.* UK: Oxford University Press.

Silverman, D. (2000). Analyzing talk and text. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research*, 2nd ed. (pp. 821-834). Thousand Oaks, CA: Sage Publications.

Small, R. V. (2002). Collaboration: Where does it begin? [Electronic version]. *Teacher Librarian, 29*(5), 8-12.

Soanes, C., Hawker, S., & Elliot, J. (Eds.). (2005). Pocket Oxford English Dictionary, 10th ed. New York: Oxford University Press.

Stake, R. E. (1995). *The art of case study research.* Thousand Oaks, CA: Sage Publications.

Stake, R. E. (2000). Case studies. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research*, 2nd ed. (pp. 435-454). Thousand Oaks, CA: Sage Publications.

Statistics Canada. (2005). *Canadian school libraries and teacher librarians: Results from the 2003/04 information and communications technologies in schools survey* (81- 595-MIE 2005028). Ottawa, ON: D. Coish.

Stemler, S. (2001). An overview of content analysis. *Practical Assessment, Research and Evaluation, 7* (17). Retrieved May 3, 2005, from http://paraonline.net/getvn.asp?v=7&n=17

Stenstrom, A. B. (1994). *An introduction to social interaction.* London, U.K.: Longman.

Todd, R., & Southon, G. (2000). Knowledge management: Key to partnerships, learning outcomes and resourcing a learning community. In E. B. Howe (Ed.), *Information Literacy: Key to the Future* (pp.143-154). Seattle, WA: International Association of School Librarianship.

Treleaven, L., & Cecez-Kecmanovic, D. (2001). Collaborative learning in a web-mediated environment: A study of communicative practices [Electronic version]. *Studies in Continuing Education, 23* (2), 169-183.

Trilling, B., & Hood, P. (1999). Learning, technology and education reform in the knowledge age or we're wired, webbed, and windowed, now what? [Electronic version]. *Educational Technology, 39* (3), 1-25.

Weber, R. P. (1990). *Basic content analysis*, 2nd ed. Newbury Park, CA.

Wenger, E. (n.d.). *Communities of practice: A brief introduction.* Retrieved February 15, 2005, from http://www.ewenger.com/theory/communities_of _practice_intro.htm

Wenger, E. (1996). Communities of practice: The social fabric of a learning organization [Electronic version]. *The Healthcare Journal of San Francisco, 39* (4), 20-27.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity.* Cambridge, UK: Cambridge University Press.

Wenger, E. (2000). Communities of practice: The key to knowledge strategy. In E. L. Lesser, M. A. Fontaine, & J. A. Slusher (Eds.), *Knowledge and communities* (pp. 21-35). Boston, MA: Butterworth Heinemann.

Wenger, E. C., & Snyder, W. M. (2000). Communities of practice: The organizational frontier [Electronic version]. *Harvard Business Review, 78* (1), 139-145.

Wenger, E., McDermott, R., & Snyder, W. M. (2002). *Cultivating communities of practice: A guide to managing knowledge.* Boston, MA: Harvard Business School Press.

Wesley, P. W., & Buyusse, V. (2001). Communities of practice: Expanding professional roles to promote reflection and shared inquiry [Electronic version]. *Topics in Early Childhood Education, 21*, 114-123.

Yagamata-Lynch, L. C. (2001). *Community of practice: What is it, and how can we use this metaphor for teacher professional development.* In Annual proceedings of selected research and development [and] practice papers presented at the National Convention of the Association for Educational Communications. (ERIC Document Reproduction Service No. ED470198).

Yates, B. (1997). Our patch vs their patch: Information technology and literacy in schools. Information rich but knowledge poor? Emerging issues for schools and libraries worldwide. Research and professional paper presented at the annual conference at International Association of School Librarians, Vancouver, BC, July 6-11. Seattle: International Association of School Librarianship.

Yin, R. K. (2003a). *Applications of Case Study Research.* 2nd ed. Thousand Oaks, CA: Sage Publications.

Yin, R. K. (2003b). *Case study research: Design and methods.* 3rd ed. Thousand Oaks, CA: Sage Publications.

Zurkowski, P. G. (1974). *The information service environment relationships and priorities.* Washington, DC: National Commission on Libraries and Information Service.

Appendix

Appendix A

SIMON FRASER UNIVERSITY

OFFICE OF RESEARCH ETHICS

BURNABY, BRITISH COLUMBIA
CANADA V5A 1S6
Telephone 604-291-3447
FAX: 604-268-6785

April 22, 2004

Ms. Hazel Clark
Graduate Student
Faculty of Education
Simon Fraser University

Dear Ms. Clark:

Re: Once inside the library:
Teacher librarians, technology and collaborative connections:
A case study of teacher librarians in support of the 8 – 12 education program

I am pleased to inform you that the above referenced Request for Ethical Approval of Research has been approved on behalf of the Research Ethics Board. This approval is in effect until the end date of April 22, 2007.

Any changes in the procedures affecting interaction with human subjects should be reported to the Research Ethics Board. Significant changes will require the submission of a revised Request for Ethical Approval of Research. This approval is in effect only while you are a registered SFU student.

Your application has been categorized as 'minimal risk" and approved by the Director, Office of Research Ethics, on behalf of the Research Ethics Board in accordance with University policy R20.0, http://www.sfu.ca/policies/research/r20-01.htm.

"Minimal risk" occurs when potential subjects can reasonably be expected to regard the probability and magnitude of possible harms incurred by participating in the research to be no greater than those encountered by the subject in those aspects of his or her everyday life that relate to the research.

Please note that it is the responsibility of the researcher, or the responsibility of the Student Supervisor if the researcher is a graduate student or undergraduate student, to maintain written or other forms of documented consent for a period of 1 year after the research has been completed.

Best wishes for success in this research.

Sincerely,

Dr. Hal Weinberg, Director
Office of Research Ethics

c: Dr. Jan van Aalst, Supervisor

/jmy

SIMON FRASER UNIVERSITY

Form 2- Informed Consent By Participants In a Research Study

The University and those conducting this research study subscribe to the ethical conduct of research and to the protection at all times of the interests, comfort, and safety of participants. This research is being conducted under permission of the Simon Fraser Research Ethics Board. The chief concern of the Board is for the health, safety and psychological well-being of research participants.

Should you wish to obtain information about your rights as a participant in research, or about the responsibilities of researchers, or if you have any questions, concerns or complaints about the manner in which you were treated in this study, please contact the Director, Office of Research Ethics by email at hweinber@sfu.ca or phone at 604-268-6593.

Your signature on this form will signify that you have received a document which describes the procedures, possible risks, and benefits of this research study, that you have received an adequate opportunity to consider the information in the documents describing the study, and that you voluntarily agree to participate in the study.

Any information that is obtained during this study will be kept confidential to the full extent permitted by the law. Knowledge of your identity is not required. You will not be required to write your name or any other identifying information on research materials. Materials will be maintained in a secure location.

Title: **Once inside the library: Teacher librarians, technology and collaborative connections: A case study of teacher librarians in support of the 8-12 educational program**
Investigator Name: **Hazel Clark**
Investigator Department: **Education**

Having been asked to participate in the research study named above, I certify that I have read the procedures specified in the Study Information Document describing the study. I understand the procedures to be used in this study and the personal risks to me in taking part in the study as described below:

Risks to the participant, third parties or society:
There are no risks associated with this project and there is no intention to evaluate or judge or compare participants.

Benefits of study to the development of new knowledge:
The expected benefits of the research to new knowledge are as follows: 1. to understand how teacher librarians collaborating within a community of practice enhance the educational program 2. to understand how teacher librarians utilize technology to enhance educational programs

Procedures:
Teacher librarians are the participants of this research study.
Participation in this research will involve the following:

1. Giving consent to the researcher, Hazel Clark, to directly observe and be a participant observer in the Liv'in the Dream email group and in the collaboration of a workshop development.

2. Giving consent to Hazel Clark to view and make copies of relevent documents of your choice, which may include:

a.Library communication between teacher librarians and from teacher librarians to school staff related to curriculum support and program development

b. Participants documents related to collaborative activities and integration of technology

c. Participants documents related to the integration of technology into the library program

d. Any other related documents which may indicate relevent features of a community of practice and of collaboration.

As indicated in the pilot study, teacher librarians expressed an interest in further collaboration with their teachers. Therefore, third parties, administrators and teachers, will be requested to voluntarily participate in an interview and survey, respectively, regarding school library programs.

I understand that I may withdraw my participation at any time. I also understand that I may register
any complaint with the Director of the Office of Research Ethics or the researcher named above
or with the Chair, Director or Dean of the Department, School or Faculty as shown below.

Department, School or Faculty: Chair, Director or Dean:
Education

8888 University Way,
Simon Fraser University,
Burnaby, British Columbia, V5A 1S6, Canada

I may obtain copies of the results of this study, upon its completion by contacting:
Hazel Clark
#108-2710 Lonsdale Ave.,
North Vancouver, B.C.
V7N 3J1
604-980-9828

I have been informed that the research will be confidential.

I understand that my supervisor or employer may require me to obtain his or her permission prior to my participation in a study of this kind.

I understand the risks and contributions of my participation in this study and agree to participate:

The participant and witness shall fill in this area. Please print legibly

Participant Last Name: Participant First Name:

Participant Contact Information:

Participant Signature: Witness (if required by the Office of Research Ethics):

Date (use format MM/DD/YYYY):