Developing a Web-Supported Community in the Service of Teacher Professional Development: A Case Study of Vancouver School Board Early Literacy Project

by

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Abstract

This interpretive case study was conducted to explore the possibilities for development of e-VSB Literacy, a web-supported professional community, as the online component of Vancouver School Board Early Literacy Project (VSB Literacy Project), a face to face successful community of teachers. Participants were seven members of the VSB Literacy Project—two coordinators, four mentors, and a consultant—who had basic computer skills and had access to the Internet on a daily basis. Their experience with e-VSB Literacy included a resource website and an electronic bulletin board that was developed and customized for this study over a period of seven months. Informed by theories of social learning and communities of practice, this study explores participants' perceived need for e-VSB Literacy, investigates the factors that impacted their use of e-VSB Literacy, and examines the contents of their online discussions.

Data was collected from semi-structured face to face interviews—one at the beginning and one toward the end of the study—, personal journal, and contents of the bulletin board. Analysis of the data showed that although participants were aware of the potential of e-VSB Literacy, they did not perceive a significant need for it. Findings also revealed relevance, commitment, and socio-technical issues as three major factors that impact participation in e-VSB Literacy. Participants were not satisfied with their use of the bulletin board because the cost of logging into the bulletin board was more than its benefits; i.e. in general, the amount and quality of professional discussions were less than expected.

Finally, based on the findings, a number of recommendations are made to guide future designs of e-VSB Literacy to become a functioning professional community.
# Table of Contents

Abstract .......................................................................................................................... ii  
Table of Contents ........................................................................................................... iii  
List of Tables ................................................................................................................... vi  
List of Figures ................................................................................................................ vii  
Acknowledgments ......................................................................................................... viii  
Dedication ....................................................................................................................... x  
CHAPTER I: Introduction ............................................................................................... 1  
1.1 Problem Statement ................................................................................................. 2  
1.2 The Study ............................................................................................................... 5  
  1.2.1 Background of the Study ................................................................................ 5  
  1.2.2 Purpose of the Study ..................................................................................... 7  
  1.2.3 Research Questions ....................................................................................... 8  
  1.2.4 Significance of the Study .............................................................................. 9  
  1.2.5 My Role as the Researcher .......................................................................... 10  
  1.2.6 Limitations of the Study .............................................................................. 12  
1.3 Organization of the Thesis ...................................................................................... 13  
1.4 Definition of Terms ............................................................................................... 13  
CHAPTER II: Review of Literature ............................................................................. 15  
2.1 Theoretical framework ......................................................................................... 15  
  2.1.1 From an acquisition to a participation metaphor ....................................... 15  
  2.1.2 Situativity theories ....................................................................................... 16  
  2.1.3 Learning as social practice ......................................................................... 18  
  2.1.4 Learning in communities of practitioners .................................................. 18  
  2.1.5 Conceptual framework of communities of practice .................................... 19  
  2.1.6 Final note on innovation and CoPs ............................................................... 20  
2.2 Internet mediated CoPs, promises, challenges, and issues ............................... 22  
  2.2.1 Advantages of internet mediated communities to face to face communities 23  
  2.2.2 Challenges of internet mediated communities ........................................... 24  
  2.2.3 Unsettled issues in internet mediated communities .................................... 27  
  2.2.4 Final word about internet mediated communities ...................................... 28  
2.3 Effective TPD ....................................................................................................... 29  
  2.3.1 Paradigm shift in TPD ................................................................................ 29  
  2.3.2 Guidelines for effective professional development .................................... 30  
  2.3.3 CoPs and TPD ............................................................................................ 33  
2.4 Web-supported professional communities for TPD ........................................ 34  
  2.4.1 Affordance of online communication technologies for TPD .................. 36  
  2.4.2 Previous research on web-supported communities for TPD .................... 36  
  2.4.3 Factors identified to impact web-supported communities of teachers ....... 38  
  2.4.4 Common methodological flaws of previous studies .................................. 39  
2.5 Three web-supported teacher communities ...................................................... 40  
  2.5.1 Tapped-In (TI) ........................................................................................... 41  
  2.5.2 Inquiry Learning Forum (ILF) .................................................................... 56  
  2.5.3 New Teacher Support E-Mentoring Project (NTSEMP) ......................... 72
### 2.6 Conclusion

**CHAPTER III: Methodology**

- 3.1. Case study design ................................................. 87
- 3.2 Selecting a research design ...................................... 88
- 3.3 Study site ................................................................ 89
- 3.4 Participants ............................................................ 93
- 3.5 Study time line ........................................................ 94
- 3.6 Methods ................................................................. 96
  - 3.6.1 Interviews ........................................................... 96
  - 3.6.2 Contents of Bulletin Board .................................... 98
  - 3.6.3 Researcher’s journal ........................................... 99
- 3.7 Data analysis ............................................................ 99
- 3.8 Trustworthiness ....................................................... 101
- 3.9 Ethical considerations .............................................. 104

**CHAPTER IV: Findings**

- 4.1 Status of ICT use in participants practice .................. 105
  - 4.1.1 Comfort level with ICT ....................................... 106
  - 4.1.2 Perceived necessity of using ICT in education ....... 107
  - 4.1.3 Current professional use of ICT ......................... 108
  - 4.1.4 Effect of availability and reliability on ICT use .... 111
- 4.2 Significance of e-VSB Literacy initiative .................... 113
  - 4.2.1 Perception of effective PD .................................. 114
  - 4.2.2 VSB Literacy as a professional community .......... 116
  - 4.2.3 Identifying the need for e-VSB Literacy ............... 118
  - 4.2.4 Doubts about future of the e-VSB Literacy .......... 125
- 4.3 Factors that impact participation in the e-VSB Literacy 128
  - 4.3.1 Time constraints .............................................. 128
  - 4.3.2 Relevance of Content ....................................... 130
  - 4.3.3 Access to credible answers ................................ 132
  - 4.3.4 Active discussions ........................................... 133
  - 4.3.5 Commitment to use e-VSB Literacy .................... 136
  - 4.3.6 Effect of job action ......................................... 139
  - 4.3.7 Socio-technical issues ...................................... 140
  - 4.3.8 Using e-VSB Literacy for a purpose .................... 144
  - 4.3.9 Possibilities for learning ................................... 146
- 4.4 Participants experience with e-VSB Literacy bulletin board 149
  - 4.4.1 A visual overview of the bulletin board .............. 149
  - 4.4.2 Theme of the discussion topics ......................... 155
    - 4.4.2.1 Related to daily practice ............................ 155
    - 4.4.2.2 Professional concerns ............................... 156
    - 4.4.2.3 Technology related .................................. 157
  - 4.4.3 Nature of answers ........................................... 158
    - 4.4.3.1 Sharing personal practice/experience .......... 158
    - 4.4.3.2 Giving hints ......................................... 159
    - 4.4.3.3 Asking more questions to solicit response ...... 160
    - 4.4.3.4 Making an argument ............................... 160
List of Tables

Table 3. 1  Summary of participants' professional information.................................................94
Table 4. 1  Discussion topics in the Grade K-3 Discussion Forum...........................................152
List of Figures

Figure 4.1 List of forums in the e-VSB Literacy bulletin board ........................................150
Figure 4.2 Snapshot of Grade k-3 Discussions forum .........................................................151
Figure 4.3 Portion of each participant’s contribution to the bulletin board .........................154
Figure 4.4 Participants’ share of creating new discussion topic ..........................................155
Figure 5.1 Factors that impact participation in the e-VSB Literacy ....................................175
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CHAPTER I: Introduction

In this interpretive case study, I have explored the possibility for the development of a web-supported professional community as an online component of the Vancouver School Board Early Literacy Project (VSB Literacy), a face to face successful community of teachers. I call the web-supported component e-VSB Literacy throughout the thesis. The study explores VSB Literacy members’ need for the e-VSB Literacy to enhance their chances for professional development, identifies factors that impact on their activities in the e-VSB Literacy, and also looks at how they use an online bulletin board for professional discussions. In the first stage, a minimum structure for e-VSB Literacy was developed consisting of a resource website and a bulletin board to host discussions. Seven participants, the Literacy consultant of Vancouver School Board, four Early Literacy mentors, and two Early Literacy school coordinators worked with the e-VSB Literacy resource website and bulletin board from mid September 2005 to April 2006 and took part in two interviews to share their perspectives of e-VSB Literacy.

In chapters that follow, I describe how the study was conceived, designed, and implemented. Finally, based on participants’ reflections of their experience with e-VSB Literacy, I present guidelines for development of future iterations of the e-VSB Literacy web-supported community of practice.

In this chapter, I introduce the problem to be studied along with a description of the context of the study, set out the objectives and research questions, highlight the research process, and explain significance and limitations of the study.
1.1 Problem Statement

Providing opportunities for ongoing teacher learning is a recent trend in the teacher professional development (TPD) literature (Guskey, 2003; Loucks-Horsely et al., 1987; Loucks-Horsley, Hewson, Love, & Stiles, 1998) which originates from the argument that the teachers' need for learning changes with the time and are different from person to person (Hall & Hord, 1987; Huberman, 1992; Loucks-Horsley et al., 1998). The new paradigm in TPD suggests that teacher learning is facilitated in communities that are ongoing, collaborative, include teachers with different expertise, and focus on practical issues (Guskey, 2003; Hall & Hord, 1987; Hargreaves, 2003; Huberman, 1992; Lieberman, 1995; Loucks-Horsely et al., 1987; Loucks-Horsley et al., 1998). The emphasis here is learning as it happens in social contexts (Lave & Wenger, 1991; Lave, 1993; Wenger, 1998).

On the other hand, increased accessibility of online technologies, various forms of online communication tools, and their perceived benefits for TPD (Harasim, Hiltz, Teles, & Turoff, 1997) calls for a careful investigation into the role they could play in enhancing TPD. Use of technology in TPD is so prevalent that nowadays it is hard to find a professional development program that does not have an online component (Schlager & Fusco, 2004).

Combining the notion of teacher learning in professional communities with affordance of online technologies, the research also advocates the use of online communities in TPD. Muscella and DiMauro (1995) list the characteristics of “online networks” that can enhance TPD as:

- Supporting substantive and reflective conversations;
- Having a particular focus;
- Creating an environment that fosters colleagueship; and
- Putting teachers in control of their own development. (p 4)
Yet, before proceeding any further, there is a need for clarification of the term “community.” “Community” is an abstract ill-defined concept with almost as many definitions as the number of manuscripts written about it (Barnett, 2002; Havelock, 2004; Zhao & Rop, 2001). Basically it has been used to define a group of people who come together for a purpose. The question here is: what kind community can promote TPD? Following the clues from the literature on TPD about such a community, Lave and Wenger’s concept of “communities of practice” (CoP) (Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Synder, 2002) and Riel and Pollin’s idea of “learning communities” provide suitable frameworks (Riel & Polin, 2004).

Lave and Wenger (1991) conceptualize a CoP as an emergent, tightly knit collection of individuals sharing mutually defined practices, sets of beliefs, and history that is developed over time around a shared enterprise (Brown & Duguid, 2000; Brown, Collins, & Duguid, 1989; Lave & Wenger, 1991). This definition, although general, sets three criteria for a learning community: having a focus, collaborating over time, and having a shared history and culture.

The extent to which the conceptual framework of CoP can be used as a lens for data collection and analysis of studies dealing with TPD and online communities is, however, questionable. For one thing, there is no evidence for web-supported TPD CoPs developing as emergent entities. The need for careful design and provisions for scaffolding participation in such web-supported communities is reflected in the studies of both TPD and non TPD web-supported communities. (Barab, MaKinster, Moore, & Cunningham, 2001; Barab, MaKinster, & Scheckler, 2004; Johnson, 2001; Schlager & Fusco, 2004; Schlager, Fusco, & Schank, 2002; Stuckey, 2004)

Riel and Polin (2004) offer a slightly different perspective than aforementioned authors and define leaning communities as communities that have been intentionally developed to support
learning. Any learning community, then, falls into three overlapping subcategories of task-based, practice-based, and knowledge-based (Riel & Polin, 2004). The authors define a practice-based learning community as one that “arises around a profession, discipline, or field of endeavor” (page 26) in which members voluntarily participate in the community (Riel & Polin, 2004).

Riel and Pollin’s (2004) characterization of learning communities is important with regard to intentionality of online communities. Lave and Wenger (1991) and Wenger (1998) treat CoPs as naturally coming into existent and not designed upfront. Therefore, it is important to have the intentionality of online communities for TPD in mind.

In theory, teachers can benefit from online communities because of the flexibility these communities offer in terms of time and content. It is expected that teachers embrace the opportunities that online communities for TPD make possible, use online resources, and expand their collegial networks through online communication tools (Barab & Duffy, 2000). But the reality is different.

Research does not provide solid evidence of the success of online TPD communities. The mere existence of a website and a collection of communication tools do not guarantee that teachers will use them. Online communities for TPD are usually initiated from universities and research centers and after some years when funding is exhausted are shut down. (Barab et al., 2001; Barab, Barnett, & Squire, 2002; Barab et al., 2004; Barab, Kling, & Gray, 2004; Barnett, 2002; Fusco, Gehlbach, & Schlager, 2000; Klecka, Clift, & Thomas, 2002; Klecka, Clift, & Cheng, 2005; Klecka, 2003; Kling & Courtright, 2004; Reynolds, Treahy, Chao, & Barab, 2001; Schlager & Fusco, 2004; Schlager, Fusco, Koch, Crawford, & Phillips, 2003; Schlager et al., 2002; Zhao & Rop, 2001).
However, effectiveness of web-supported TPD communities and conditions for their success need to be further studied because previous studies do not provide in-depth data about quality of teachers’ participation in online communities, especially with regards to the use of online communication tools as a context for professional discussions. In this study I have investigated issues associated with the development of an online component to an existing face to face community of teachers in Vancouver.

1.2 The Study

In this section, I introduce the background of the study and the context in which the study took place so that the reader gets a glimpse of the contextual conditions. This study is a part of a larger study “Going On-Line with Vancouver's Early Literacy Project: A Pilot Study” at the department of Curriculum Studies, the University of British Columbia.

1.2.1 Background of the Study

Established in 1999 as a school based movement to improve students’ literacy levels and to enhance teachers’ performance, Vancouver School Board Literacy Project (VSB Literacy Project, VSB Literacy, or the Project) was designed, implemented, and has been maintained by teachers from public schools in Vancouver. The project started with 4 elementary schools and 25 teachers and now includes 69 schools and over 700 teachers. The project started with grades k-3 as Early Literacy and now has expanded to include grades 4-7 as Later Literacy. In this study the focus is on Early Literacy and therefore any reference made to the VSB Literacy Project refers to k-3 division.

Teachers who join the project constantly assess students’ literacy level and modify their classroom activities accordingly. To assist teachers with their professional development needs
within the first five years, the Project has set up two levels of peer support: mentors and coordinators. Mentors work at the district level and are responsible for all VSB Literacy schools, while coordinators only serve the school in which they teach.

An informal analysis of the narratives of 145 participating teachers gathered by Clarke, Storlund, Wells, and Wong in 2004 revealed that VSB Literacy teachers have developed a sense of belonging to professional learning community. Moreover, knowing that they would only be supported for the first five years of their participation in the VSB Literacy Project, they were concerned about the continuation of the effective professional development which is a part of the VSB Literacy Project.

Three years ago the Center for the Study of Teacher Education at the Faculty of Education, the University of British Columbia started joint research activities with VSB Literacy Project. As a result of conversations between UBC faculty members and the VSB Literacy Steering Committee and the increase in the number of schools, it was decided to examine the role of online technologies in the promoting VSB Literacy based professional communications. The "Going On-Line with Vancouver's Early Literacy Project: A Pilot Study" is the latest research collaboration between UBC and VSB Literacy Project.

Prior to this study, VSB Literacy Project did not have an online component except for some informative pages on the Vancouver School Board website. As a part of the "Going On-Line with Vancouver's Early Literacy Project: A Pilot Study", the setting where my study was framed, I developed a resource website in collaboration with a Literacy mentor and customized a web-based discussion forum as the basic infrastructure of the online component of the VSB Literacy Project.
The online component is an extension of the VSB Literacy Project and, therefore, can be referred to as a web-supported professional community. I decided to call this potential web-supported professional community "e-VSB Literacy Project" because it is not an independent entity, rather online dimension of an existing community. The reader should bear in mind that at this point I do not assert that e-VSB Literacy is a functioning community. Rather, I intend to investigate the issues that affect its development as a community.

1.2.2 Purpose of the Study

The growing demand of more schools to join the VSB Literacy Project, willingness of teachers to have professional talks with their colleagues across VSB Literacy Project schools, five year support for member schools, and the limited pool of mentors and coordinators as main sources of support make the idea of researching an online extension to the VSB Literacy Project compelling.

Informed by the social theories of learning and previous studies conducted on online communities for TPD, this case-study explores the possibilities for the e-VSB Literacy project developing a web-supported community that extends VSB Literacy’s professional activities over the barriers of time and space.

With a small group of volunteer VSB Literacy mentors and coordinators as participants, this study explores:

- Participants’ perception of the necessity of a web-supported component for the Literacy Project;
- Factors that either encourage or discourage their participation in the activities of the online component; and
- Participants’ use of online discussion forum and the substance of their discussions.
Bearing in mind the three characteristics of CoPs proposed by Lave and Wenger (1991) and Wenger (1998), I want to explore participants’ experience with the e-VSB Literacy to see if they share a common interest in using an online component. Along the same line, I have considered the concept participation as participants’ contributions to the online discussion forum by posting messages, responding to messages, or reading what others have written. I am looking for evidence that such contributions become a part of participant’s professional activities and hopefully continue beyond the time line of this study.

1.2.3 Research Questions

This case-study intends to explore the content and nature of online interactions among VSB Literacy mentors and coordinators and investigates the factors that impact their online communications in the context of e-VSB Literacy. This study is facilitated by the central question:

- What are the factors that impact the development of e-VSB Literacy as a web-supported professional community among VSB Early Literacy teachers?

The following questions elaborate on the central question:

- How do participants conceive of the use of online technologies in promoting professional development opportunities?
- What are the factors that impede or facilitate their contribution to e-VSB Literacy Project?
- What is the substance of their online discussions?
1.2.4 Significance of the Study

VSB Literacy Project decided to use online technologies, i.e. Internet and the World Wide Web, to augment accessibility of its resources to the members and provide members with a flexible medium for collegial communications. However, studies in this field show that professional discussions do not always start and sustain spontaneously in online settings (Schlager & Fusco, 2004) which presents a challenge for TPD programs that use online technologies to promote professional communications among teachers.

In a previous study, Clarke et al. (2004) identified a sense of belonging to a professional community among VSB Literacy teachers but did not ponder on what makes this group of teachers a community. One identified factor was that teacher’s believed they had learnt a great deal through talking and communicating with their colleagues about Literacy, the focus of the Project. Implied in that notion was learning through engaging in a collegial community.

e-VSB Literacy is the first attempt to integrate online technologies with the Literacy Project for the purpose of promoting collegial communication and facilitating access to scarce resources. Therefore, findings of a case-study that investigates how a community-focused online initiative develops within the Literacy Project are significant in both practical and theoretical domains. In the practical domain the study is significant in at least three ways:

• Informing the Literacy Project organizers about the role districts can play in providing technological infrastructure and support;
• Recommending structures that can promote teacher’s participation and learning in the online component with regards to future designs of e-VSB Literacy and plans for online activities; and
• Suggesting avenues for further research to be conducted on the online component.
The first version of e-VSB Literacy is developed and maintained collaboratively by a team consisting of a Literacy mentor, UBC Faculty of Education Professors, UBC Faculty of Education and Department of Curriculum Studies, and myself. The district’s technology department preferred to wait for the result of the present study before taking up the initiative and supporting the e-VSB Literacy within their existing technological resources.

Also, there is confusion about who should be in charge of the growing of community and whether the leadership should come from the University or from within the district and the Literacy Project. Findings of this study will inform the district and the Literacy Project in their decision to continue supporting and growing the e-VSB Literacy.

From the theoretical perspective, this study contributes to the literature on the social structures of online communities in TPD, which is mostly descriptive and lacks in-depth investigation of the success or failure of online communities.

Although much attention has been paid to online communities and many books and articles have been written about them (Barab et al., 2004), empirical literature on online communities in the service of non-course based TPD is still in its infancy (Barnett, 2002). Being a qualitative investigation, the present study contributes to the literature on web-supported TPD communities.

1.2.5 My Role as the Researcher

My experience with online communities in education goes back to the year 2001 when I joined a progressive educational institution as web designer/developer, computer lab supervisor, and high school computer teacher. That year a colleague of mine introduce us to iEARN (www.iearn.org) and I was instantly intrigued by the opportunity the project gave me to connect my students to their peers in other countries through online collaborative projects. But later I discovered another exciting dimension of iEARN, giving teachers a chance to seek professional
development in non-prescriptive ways both through informal participation in teacher discussions or through online collaborative professional development courses.

My next successful experience with online education communities was with Environment Online (ENO) (eno.joensuu.fi). In that six-month project together with a colleague, we integrated weekly environmental awareness themed activities with two subjects of “English in the Living Context” and “Introduction to Research Methods”. In that project communication between students from around the world was not direct and teachers had to mediate all messages and activities. Although it took tremendous planning and time the results were incredible. Our students presented their work at the school fair as a well designed integration of ICT, English, and research methodology.

For the last four years, I have been involved in national (Iranian) and international online education communities in different capacities. I have been learning, teaching, facilitating projects, and moderating discussions in online communities. For the last two years I have joined a team of educators to develop the first online professional community for Farsi speaking teachers.

My experiences gave me a chance to observe teachers’ use of online resources and communication tools to enhance their knowledge and practice. For one thing, I admit that working in online settings is not for every teacher. It needs tremendous patience, motivation, and commitment. What I learnt form the ENO and iEARN experience was that the success of any work in education that involves online communication depends heavily on moderation, facilitation, and support.

For me, because I was internally motivated and a supporter of online technologies, the difficulties along the way always guided my next steps rather than preventing me form moving
forward. From my experience, obstacles in the way of teachers' participation in online professional communities are numerous. But I also believe in and have experienced the positive effects of opening up myself to a diverse population of colleague outside my work settings. To me, every teacher has something unique to offer and online communication tools can, if used correctly, give teachers the opportunity to draw upon this existing pool of knowledge and contribute to it.

This study gave me the chance to conduct an empirical examination of what encourages or discourages teachers to use online communication tools, especially discussion forums, for professional development. In addition to being the researcher I was the tech support for e-VSB Literacy Project. I was responsible for things like assisting participants with obtaining a user name and password for the discussion forum, updating the resource website, and in some cases helping participants with their technological problems. These responsibilities did not interfere with the data collection and interpretation process.

1.2.6 Limitations of the Study

This case study focuses on a particular project—the VSB Literacy Project—and a small group of participants—one Literacy consultant, four mentors, and two coordinators—over a specific duration of time—from September 2005 to May 2006. Findings of this study are specific to this case because the above conditions cannot be replicated and generalizing to other contexts may not be feasible. Nevertheless, other face to face teacher communities with a similar structure to VSB Literacy Project may learn form the findings of this study.

Another limitation of the study was the unexpected three week job action right at the beginning of the project and shortly after I met with mentors. As a result, I could not meet with coordinators to introduce the study sooner than November 2005 and those who volunteered
started their participation in late January 2006. The nature of their participation in the study might have been different if they had started at the same time as coordinators and that might have affected the final results of the study.

Choice of the bulletin board software caused some limitations with regards to tracking participants’ use of it. The selected bulletin board, which was the best choice considering the scope of the study, did not provide detailed information on the exact date and time participants visited the forum, the amount of time they spent there, and which discussion topics they accessed but not did responded to.

1.3 Organization of the Thesis

This thesis is divided into five chapters. In the present chapter I have outlined the background and purposes of the study, research questions, significance of the study, and limitations to the study. Chapter two is a review of conceptual and empirical literature pertinent to research questions. Chapter three sets out the rationale for the research design and explains the choice of methodology as well as the study timeline, participant selection, protocols for data collection and analysis, and ethical consideration. Measures of trustworthiness are also discussed in this chapter. Description of the findings of the study and interpretation of data is presented in chapter four. Finally chapter five provides a summary of findings and discusses the results of the study. This chapter also discusses practical implications and makes recommendations for future research.

1.4 Definition of Terms

The following terms are central to the study:
• **Web-supported professional community/online professional community:**

These terms refer professional communities (Lave & Wenger, 1991; Wenger, 1998; Riel & Pollin, 2004) that have online resource and communication components.

• **Web-supported discussion forum/ Web-supported bulletin board/online discussion forum/ online bulletin board/ discussion forum/ bulletin board:**

An electronic communication tool where people can post their messages, in writing for example, under discussion topics. Other people who have access to that bulletin board can read the messages, respond to them or initiate new discussion topics.

• **Information Communication Technologies (ICT):**

ICT “refers to the processes, tools, and techniques used for communicating ideas and information, inquiring, making decisions, and solving problems. It supports locating, retrieving, sorting, evaluating, analyzing, synthesizing, creating meaning, and communicating ideas and information.” (British Columbia Ministry of Education, Education Technology Branch 2001; p. 3). I use this term in the presentation of data and discussions.

• **Online technologies:**

I have used this term to refer to the Internet, World Wide Web, and the Internet/we supported communication tools.
CHAPTER II: Review of Literature

This chapter presents the theoretical background and review of the literature pertinent to this study. The theoretical framework is informed by theories of situated learning (Barab & Duffy, 2000; Brown, Collins, & Duguid, 1989) and learning in communities of practice (Lave & Wenger, 1991; Wenger, 1998). In this chapter I’ve reviewed the literature on online communities of practice, effective teacher professional development, and finally web-supported communities for teacher professional development. Towards the end of this chapter, I discuss issues related to the development of web-supported TPD communities and teachers participation in such communities and identify gaps in the literature where more research is needed.

2.1 Theoretical framework

I have chosen the concept of Community of Practice (CoP) as a window to study the trends in the development of e-VSB Literacy. The theoretical underpinning of this study is informed by the notion of learning through participation in communities of practice (Barab & Duffy, 2000; Brown et al., 1989; Lave & Wenger, 1991; Wenger, 1998) and is discussed in this section. Since learning in communities of practice has its roots in situated learning theories, a brief history of the latter sets the stage for better understanding of the former.

2.1.1 From an acquisition to a participation metaphor

In the culture of acquisition (Lave, 1997) knowledge is treated as a self sufficient substance, consisting of abstract concepts independent of the context in which they are practiced or learned (Brown et al., 1989). Learning is the transmission of a body of knowledge from experts to novices who absorb and assimilate it. Implied in this metaphor are the notions that learning
happens as a result of explicit knowledge transmission and that the settings and activities that learners experience have little effect on their learning (Brown et al., 1989; Lave & Wenger, 1991; Lave, 1997).

During 1980s, theories of learning moved away from the acquisition metaphor toward understanding through practice where, according to Brown et al. (1989), “situations co-produce knowledge through activity. Learning and cognition are fundamentally situated” (p.32). In this perspective, meaning and cognition are socially constructed, and activity, learner, concepts, and situations are interdependent. Knowledge is not an abstract and self-contained entity; rather, it is dynamically constructed by learners through their engagement in authentic activities of the community in which it is used. Learners develop this understanding as they use it in authentic settings and become acquainted with the culture of that community. Learners have an active role in meaning making rather than being passive (Barab & Duffy, 2000; Brown et al., 1989; Lave, 1997). The knowledge acquisition metaphor and the participatory metaphor treat learning in different ways. The former down plays the role of the situation in which the learning takes place and assumes that learning naturally occurs as a result of knowledge transmission (Brown, et al, 1989; Lave, 1997). The latter, on the other hand, emphasizes the fundamental effect of situations and activities on learning. What is learnt, in this sense, is problematic in relation with what is taught (Lave & Wenger, 1991).

### 2.1.2 Situativity theories

The term “situativity theory” (Barab & Duffy, 2000) refers to theories that are predicated on the situated nature of learning. Brown et. al. (1989) and (Collins, Brown, & Newman, 1989) are among those who have investigated the application of situativity theories within school contexts. Their work focuses on achieving pedagogical goals in classroom settings through situating
content in authentic activities. This is a form of cognitive apprenticeship, where, instead of transmitting concepts, teachers engage students in activities that require the use of these concepts (Barab & Duffy, 2000).

Another interpretation of situativity theories comes from the work of anthropologists Jean Lave and Etienne Wenger who posit that besides meaning and cognition, individuals develop identities through active membership in communities. A person becomes knowledgeable and skillful through becoming a legitimate member of a community of practice (Barab & Duffy, 2000). In this extended view of situativity, learning is not merely situated in practice, it is an integral part of it.

Lave and Wenger (1991) coined the term Legitimate Peripheral Participation to “describe engagement in social practice that entails learning as an integral part” (p.35). Legitimate peripheral participation focuses on learning as it happens through the interactions of individuals with each other within their communities and everyday lives. Participation of every community member in the shared practice of the community is legitimate and important to the community regardless of their level of expertise and their centrality to the practice of community. Members may change their position from peripheral practitioners to core practitioners and vice versa but still their contributions to the community is legitimate. They learn through involvement in the activities of a community of practitioners and newcomers gain mastery of knowledge and skill by moving toward full participation in the practice of the community. A brief review of the notion of learning as social practice is helpful to clarify learning through membership in communities of practitioners.
2.1.3 Learning as social practice

In their seminal book “Situated learning: legitimate peripheral participation” Lave and Wenger (1991) defined learning as dimension of social practice; a person becomes engaged in learning as a matter of increased participation in social practice. Learning is manifested through constantly evolving relations among people who are active in this socially and culturally structured world. Meanings developed through social participation are constantly renegotiated in the course of activity. As a result, learning does not directly depend on the formal and predetermined pedagogical goals; rather, it happens as learners are exposed to the resources and get involved in the socially structured activities of a community. In other words, it is the structure of practice rather than the structure of pedagogy that is the source of learning.

2.1.4 Learning in communities of practitioners

Situated learning takes place when individuals get involved in the activities of a community of practice and gain mastery of the skills and knowledge of that practice through a process of enculturation. Community, as defined by Lave and Wenger, is a group of people who have different interests in the shared practice, make diverse contributions to activity, and hold varied viewpoints. It does not imply a co-present, well-defined, an identifiable group. Participation in a community implies getting involved “in an activity system about which participants share understandings concerning what they are doing and what that means in their lives” (Lave & Wenger, 1991) (p.98). Newcomers start by observation and limited participating in the activities of the community and gradually move toward full participation. Through this process of legitimate peripheral participation they are exposed to a diverse range of mastery of practice,
tools of the community, and its culture. Moreover, along with developing knowledgeable skills, members of community develop their professional identities.

Compared to the cognitive apprenticeship concept where learners get engaged in somewhat pre-designed learning activities, this view of situativity theory gives learners responsibility in initiating learning situations according to their needs.

2.1.5 Conceptual framework of communities of practice

Lave and Wenger (1991) suggest that knowledge spreads faster where there is a collaborative relationship among peers and near-peers, concluding that engaging in practice can lead to effective learning. The context for such learning is a community defined as a tightly knit collection of individuals participating in mutually defined practices, sets of beliefs and history that are developed over time around a shared enterprise (Brown & Duguid, 2000; J. S. Brown et al., 1989; Lave & Wenger, 1991). Within mutually shared activities, new-comers, journey men, and old-timers learn together; making community of practice a dynamic context (Wenger, 2005). However, not all groups of people who work together form a community of practice (CoP). Wenger (1998) has identified three essential characteristics of CoP as:

- Mutual engagement: members are able to identify themselves with a mutual engagement or domain. Commitment to this domain of interest or competency distinguishes them—both new-comers and old-timers—from people outside that community;

- Joint enterprise: members of the community might be differently interested in that domain but they engage in negotiations around their mutual engagement, collaborate, and share information. Learning that takes place as a result of these discussions give coherence to the community and makes it a CoP. Otherwise, there would be only a group of people who work together; and
• Shared repertoire: over time, negotiations and discussions lead to formation of a collection of shared resources, experiences, tools, and language. This collection requires sustained interaction among community members and becomes a source of reference for community and is re-negotiated in the interactions.

Lave and Wenger (1991) and Wenger (1998) did not provide practical measures for investigating existence or non-existence of a CoP. Barab and Duffy (2000), identified three characteristics of CoPs as:

- Having a shared history and culture including goals, beliefs, and shared stories of practice;
- Mutual interdependence among members and the community; and
- Structures for reproduction.

Barab, MaKinster, and Scheckler (2004) added four characteristics for CoPs to the above set:

- Common practice and/or mutual enterprise;
- Opportunities for interactions and participation;
- Meaningful relationships; and
- Respect for diverse perspectives and minority views. (p.54)

2.1.6 Final note on innovation and CoPs

The above discussion demonstrates the potential of CoPs in promoting informal and rich learning among practitioners in their work settings. However, the shortcomings of this approach should not be neglected (Schwen & Hara, 2004). As pointed out by Lave and Wenger (1991), Wenger (1998), and Barab and Duffy (2000), a community is constantly reproducing itself, which is essential to its sustainability, by enculturating new members as they interact with older ones.
Here lies the dilemma (Lave & Wenger, 1991): to keep the community stable and its identity reinforced, old-timers tend to pass on the values and the heritage of the community to new comers through a process of social reproduction. It can be inferred that chances are low for innovation and change to be initiated by old-timers, who will naturally resist those ideas that work against norms and status quo of a community. New ideas, as a result, are more likely to be introduced by new-comers who have peripheral, not core, status in the community (Riel & Polin, 2004).

Yet there is another dimension to this discussion. As mentioned by Lave and Wenger (1991), CoPs do not work in isolation but exist in and interact with the dynamic world surrounding them. A sustainable CoP has to be attentive to changing needs of its context which calls for all members, new or old, to constantly observe and assess the status quo of their practice and how it should change to respond to contextual demands. This dimension keeps both new members and old ones responsible for seeking new means of enhancing the performance of their community. CoPs can embrace change, as Wenger (2005) advocates, in the presence of legitimimized processes that support criticizing the status quo.

For this study I have assumed VSB Literacy Project as a CoP because its members have agreed on enhancing students’ level of literacy and becoming better practitioners as their “mutual interest”, collaborate with each other throughout the school year, and have developed a shared culture during the seven years of working together. Significant to this study, with regards to the above framework, are how teachers at various levels of expertise collaborate with each other to improve literacy levels of students and how they succeed to build, and further, negotiate and renegotiate shared resources for their practice. I emphasize again that the e-VSB Literacy is a
supplement to VSB Literacy and therefore, in this study I consider the potential of an online CoP to emerge as an extension to the existing VSB Literacy community.

CoPs are about making connections and communicating with other professionals, implying that increased access to other members within a CoP will facilitate learning. Online communication tools—like email, bulletin boards, and chat rooms—then may play a role in increasing access within a CoP by removing the barriers of time and space. Nevertheless, perceived benefits of incorporating online communication technologies in CoPs should not distract our attention from the challenges they may cause. The next section reviews issues related to internet-mediated CoPs.

2.2 Internet mediated CoPs, promises, challenges, and issues

This section, examines the ways online technologies succeed or fail to provide a suitable context for CoPs. In addition to studies that considered internet mediated communities of practice, the results of Preece, Nonnecke, and Andrews’s (2004) study conducted on general internet mediated communities proved to be useful in identifying problems associated with participation in internet mediated communities.

Various definitions for internet mediated communities exist ranging from simple definitions like a group of people who belong to the same discussion board (Preece, Nonnecke, & Andrews, 2004/3) to complicated ones like internet mediated CoPs that serve a developmental or learning goal and attempt to accommodate the kind of communication among members that promotes mastery in a specific field (Johnson, 2001; Stuckey, 2004). Note that the first definition by Preece, Nonnecke, and Andrews (2004) does not necessarily characterize a professional web-supported community. Except for this specific paper (Preece et al., 2004/3), all other works that I have used deal with professional communities.
2.2.1 Advantages of internet mediated communities to face to face communities

Face to face communities are based in the same physical space and their members communicate in a synchronous manner whereas members of internet mediated communities do not share a physical space (Renninger & Shumar, 2002).

Theoretically, advantages of internet mediated communities over face to face communities are: (a) increasing the number of potential community members, which in turn increases the chance of sustainability; (b) removing time and space barriers for participation in community discussions; (c) giving all members equal chance to contribute to community discussions at their own convenience and decreasing the chance of a number of members dominating community activities; (d) multiple communication channels allow members with different communication styles to participate in community activities; and (e) keeping a comprehensive, tangible archive of previous discussions and community history (Johnson, 2001; Shumar & Renninger, 2002).

Some of these advantages, like all members having the equal chance to participate and internet mediated communities increasing the possibility of prolonged sustainability, are arguable. They assume the Internet as a level context with everyone contributing at the same rate and every member equally interested in keeping community discussions active. This technical model of the Internet neglects the fact that members of an internet mediated community use the environment for social and other purposes. Most challenges of internet mediated communities originate from the divide between assumed technical model of the Internet and the social purpose that it serves (Barab, Barnett, & Squire, 2002; Kling & Courtright, 2004). Moreover, many of the so-called internet mediated communities lack the reciprocity and rich communication that are essential characteristics of a community (Shumar & Renninger, 2002).
2.2.2 Challenges of internet mediated communities

Exploring the challenges of community building in online settings is eye opener for those who are interested in developing internet mediated communities. In a survey of case-study research on internet mediated CoPs on how online technologies support the kind of communication required in a community of practice, Johnson (2001) identified two major challenges in designing, developing and, sustaining of such communities: lack of participation (lurking) and conflict between designers and actual users of internet mediated communities.

Lurking describes various degrees of non-participation in community activities, e.g. discussions. It is the main reason why communities fade. It intensifies other challenges of internet mediated communities, and is intensified by them (Johnson, 2001). Recognizing lurking as an under-studied issue, Preece, Nonnecke, and Andrews (2004) conducted an online survey on 375 internet mediated communities to explore reasons for lurking and to suggest strategies that help community members become active. Participants in that research could choose their reason for lurking from a list of 19 choices and could add their own reason if it was not among the provided list.

Preece, Nonnecke, and Andrews (2004) found that a minority of members decide not to post anything in discussions of community at the outset of their joining a community, showing that the majority of lurkers become so as they spend some time in the internet mediated community.

Synthesizing Johnson’s (2001) and Preece et. al. (2004) findings results in the following list as main reasons for why internet mediated communities suffer from lack of participation:

- *Feeling no need to post a message*: sometimes lurkers could find the answer to their questions by reading other postings;
• Need for getting oriented in the community: some lurkers expressed the need for becoming more acquainted with the community, build trust with other members, and feel confident about themselves sharing information with others as reasons for lurking;

• Avoiding multiplicity and confusion: in some occasions, lurkers did not post because they thought their contributions did not enrich the discussions or they may not have the correct answer for the question;

• Problem with technology: such problems were two fold, technological incompetence, like not knowing how to use the online communication tool, and the time it took to participate in community discussions due to technological problems;

• Lack of safety, trust, and confidence: some lurkers fear other members’ judgment about their expertise. They are also unsure if their messages would receive any responses. They were also concerned about who would read their postings and if readers would misuse the information that was posted to the discussion forum; and

• Problems with discussion contents: poor content of discussions joined with lack of critical and constructive communication, repel community members from further posting. Length of postings is another issue related to the contents of discussions. Long postings take time to read and brief responses are less likely to offer any valuable feedback.

As it is shown, only one problem is related to technology per se. Others demonstrate problems of community members in communicating with each other through technological tools. That’s why Barab et al. (2004) propose that online communities face the same challenges as face
to face communities plus challenges caused by using technology as a medium for communication.

The second major challenge in internet mediated communities is the conflict between designers and actual users. A CoP emerges as a critical mass of people joined together around a shared domain of interest. In a sense, members of a CoP develop and maintain it over the time (Lave & Wenger, 1991; Wenger, 1998).

The issues of design, development and sustaining are different in internet mediated communities owing to the fact the majority of internet mediated communities are designed up front (Johnson, 2001; Stuckey, 2004). Dedicating a space on the internet and equipping it with resources and different online communication tools do not necessarily translate into potential members’ engagement in community building. For a community of practice to emerge online, members need to identify with the domain of interest and be able to start and maintain discussions that entail learning, help novices become experts, and after a time produce a shared history of their community.

The contradiction, or duality as Wenger (1998) calls it, between designed internet mediated community and emergent community of practice is inevitable (Johnson, 2001). Consequently, instead of denying the problem, designers should look for ways to maximize the chance for an internet mediated community of practice to grow in innovative ways that respond to the needs of its members.

The two challenges of internet mediated communities of practice call for more effort in the part of community designers (Johnson, 2001; Stuckey, 2004). Based on a meta-analysis of the literature on internet mediated communities and CoPs, Stuckey (2004) provided guidelines for
internet mediated community designers that elaborate on the growth processes of internet mediated communities of practice.

Identifying three major phases in development of internet mediated communities or practice: design, implementation, and sustaining. She explores the role of designers with respect to domain of interest, potential community members, strategies for increasing participation, and resources and communication tools.

Stuckey’s (2004) meta-analysis revealed more workload for internet mediated community designers in the design and implementation phase. They have to build structures to scaffold community members’ learning with online communication tools, online communication protocols and strategies, and identification with an online environment as a space for community building.

The third phase, sustaining, would require designers to fade into the background and community members to become owners of their internet mediated community of practice. Examples of scaffolding and support structures would be moderating discussions to maintain the quality of discussions, providing multiple synchronous and asynchronous online communication tools to suit different needs, setting clear rules of conduct to develop safety, setting clear access strategies to develop trust, and supporting new comers to increase their confidence (Johnson, 2001; Preece et al., 2004/3; Stuckey, 2004). Once the designers have secured these scaffoldings in the design and implementation process, it is the responsibility of community members to take the ownership of and sustain their community.

2.2.3 Unsettled issues in internet mediated communities

The issue of how appropriate existing online communication tools are for building tight knit internet mediated CoP is still unsolved. The majority of internet mediated communities use text
based synchronous and asynchronous communication tools that lack the personality or engagement of face to face communication. Audio and video conferencing tools have been ‘around the corner’ for a few years, but owing to band width limitations and access issues they are not reliable communication tools for internet mediated communities (Johnson, 2001).

The role of face to face meeting opportunities in strengthening the bond among internet mediated community members was controversial in Johnson’s (2001) study. Some of the studies he reviewed advised incorporating face to face meetings in internet mediated communities of practice, while others counted lack of facial expression and body language as an advantage of internet mediated communities in the sense that everyone would have equal opportunity to participate and there would be less oppression. However, as the following sections of this chapter show, internet mediated CoPs that serve teacher professional development, seem to benefit from face to face meetings.

2.2.4 Final word about internet mediated communities

Internet mediated communities face two challenges in their quest for sustainability: lack of participation and conflict between the designed and the emergent community. Issues like the role of face to face meetings in strengthening the community and whether internet mediated communities are an appropriate context for emergence of a CoP are still unresolved.

Johnson (2001) and Stuckey (2004) identified a gap in empirical studies on internet mediated communities of practice. Johnson (2001) proposed further research in the form of case-studies that start with designing an internet mediated community, supporting potential members, observing communications, and finally revising the designed community to fit the needs of its members. Reminded again of the discrepancy between designed and emergent community, Johnson (2001) proposed that the revision process to be iterative.
Having reviewed challenges and issues in developing and sustaining internet mediated CoPs, I will now introduce another dimension to this chapter. The last two sections focused on learning in CoPs and issues related to the utilizing CoPs with Internet resources. It is time to take a different turn and look at the second pool of literature pertaining to this study: effective teacher professional development (TPD).

### 2.3 Effective TPD

Since focus of the study is promoting TPD, the importance of communities and community building in TPD programs needs to be investigated. This section, reviews the trends in TPD, highlights characteristics of effective TPD, and investigates the relevance of community building in promoting development of teachers.

#### 2.3.1 Paradigm shift in TPD

Teachers are the only professionals who are expected to prepare the society to cope with the requirements and rapid changes of today's world. They are expected to develop students' capacities for critical thinking, risk taking, problem solving, creativity, innovation, lifelong learning, collaborative work, and the ability to apply knowledge to new situations (Hargreaves, 2003; Loucks-Horsley et al., 1998; Stone-Wiske, Sick, & Wirsig, 2001). In a way, teachers are key change agents of the society and this will not happen unless they develop their own capacities for learning during their preparation to become teachers and later in the professional development interventions they receive (Hargreaves, 2003).

This calls for a change in the way professional development is thought of and practiced. In retrospect, approaches to TPD programs started to shift from offering external expertise and transferring what was thought to be professional knowledge to teachers in 70's to trying to
engage teachers in active and practical programs that lasted over time in the 90’s. The underlying idea of the new paradigm is to enable teachers to build understanding of their profession and think beyond the four walls of the classroom, become aware of the educational system in which they are working, and contribute to its ongoing improvement (Loucks-Horsley et al., 1998).

With this vision in mind, several authors have developed guidelines for effective professional development based on similar grounds. I have used three sets of such guidelines (Guskey, 2003; Loucks-Horsely et al., 1987; Loucks-Horsley et al., 1998) along with other literature about TPD (Hargreaves, 2003; Huberman, 1992; A. Lieberman & Miller, 1990; A. Lieberman, 1995; McLaughlin & Marsh, 1990; Werner, 2002) to propose characteristics of effective TPD.

Before going through the guidelines for effective TPD, however, it is important to be aware of the role of context in designing and delivering professional development. Guskey (2003) emphasizes the importance of the unique context of each educational institution and that there is no one set of rules for effective professional development that works in all contexts. The context is always dynamic and changes according to the requirements of the educational settings where the innovation takes place (Guskey, 2003). Based on this notion, guidelines drawn from the professional development literature are studied to identify the enabling conditions that facilitate the implementation of professional development programs.

2.3.2 Guidelines for effective professional development

An analysis of literature in TPD highlights the following as characteristics for an effective program:
• *Addresses dynamic and diverse needs*: most of the time TPD programs assist teachers in implementation of educational innovations, putting them through a process of changing their practices and beliefs and risking their reputation. Regardless of the source of change, it is a time consuming process and undoubtedly entails a teacher’s resistance (Loucks-Horsley et al., 1998; Werner, 2002). On the other hand, at every stage of their professional life, a teacher has different needs and concerns. Teachers are even different in how much of an innovation they handle at one time. Professional development programs should consider the diversity of expertise, beliefs, and concerns of teachers and provide a dynamic structure that accommodates diverse and changing range of needs (Hall & Hord, 1987; Huberman, 1992; Loucks-Horsely et al., 1987);

• *Is practical*: teachers’ first priority is to overcome the urgent issues that occur in daily classroom teaching. Professional development programs should engage teachers in practical activities that address their immediate needs. Consequently, new practices should be incrementally introduced to teachers so that they can handle them and apply them to their teaching (Guskey, 2003; Loucks-Horsley et al., 1998);

• *Gives teachers active roles*: rather than treating teachers as audience and receivers of expert knowledge, effective professional programs engage them in need assessment, goal setting, and implementation and evaluation. This way, teachers will have the opportunity to experience leadership by supporting their peers during this process (Guskey, 2003; Loucks-Horsely et al., 1987; Loucks-Horsley et al., 1998);

• *Aims at improving the system*: professional development programs work best when teachers see them as part of a systematic improvement. Rather than aiming at
individual classroom teachers, a professional development program should make connections to all parts of educational organization that relate to the proposed innovation. There is a better chance for new practices and ideas to be adopted if the whole system approves them and provides support for the implementation (Guskey, 2003; Loucks-Horsely et al., 1987; Loucks-Horsley et al., 1998);

- *Is based on existing professional knowledge:* Lieberman (1991) indicates the lack of consensus on the principles of teaching. According to her, the knowledge base in teaching is weak and discrete and teachers tend to develop their own versions of professional knowledge based on their classroom experiences. On the other hand, it is unlikely that any modification takes place unless shortcomings of the existing conditions are recognized. As a result, professional development programs should assist teachers in communicating with each other to become aware of the existing knowledge base and then decide on how they can contribute in its improvement (Guskey, 2003; Loucks-Horsely et al., 1987; Werner, 2002);

- *Is an ongoing process:* As with any other professional, teachers should constantly improve their knowledge of the profession. This is not possible unless they get involved in an ongoing and recursive process of planning for better practice, implementing the plan, and evaluating it in the face of improvements in students’ learning. Any new idea takes time to settle, and accordingly, both teachers and the organization where they are working should consider professional development as a long term commitment (Guskey, 2003; Loucks-Horsely et al., 1987; Loucks-Horsley et al., 1998); and
• Promotes collaboration among teachers with diverse expertise: the above characteristics of effective professional development imply the need for long term collaborative relations among teachers with different levels of expertise. Such collaborative work contributes to effective professional development in different ways:
  • Alleviates the feeling of discomfort, lack of confidence and competency among teachers who undertake implementing new methods in their practice (Guskey, 2003);
  • Reinforces commitment to the goals of professional development programs;
  • Legitimizes and values expertise at all levels (Guskey, 2003);
  • Gives teachers the opportunity to share ideas (and frustrations), expose their beliefs to probably unlike minded colleagues and consider multiple perspectives of issues (Werner, 2002); and
  • Makes existing expertise in educational setting available to other teachers in the form of mentoring and coaching (Guskey, 2003).

It is inferred that providing a collegial environment where teachers turn to their colleagues for support improves the chances that they might see professional development as an inseparable part of their profession.

2.3.3 CoPs and TPD

Building learning communities among teachers is advocated to foster continuous improvement of teaching practice (Guskey, 2003; Hargreaves, 2003; Loucks-Horsely et al., 1987; Loucks-Horsley et al., 1998). As shown above, guidelines for effective TPD emphasize on ongoing learning through practice, using teachers’ existing knowledge as a ground for
improvement, and collaboration with peers. The emphasis on collaboration as a means for teachers’ growth implies that social structures like CoPs can be an enabling condition for effective professional development. I do not mean that each TPD program should build a teacher CoP as a byproduct. Instead, TPD programs should be aware and identify existing social structures among teachers. Attracting the support of those social structures increases the chance of TPD programs to succeed.

Hargreaves (2003) explains two kinds of professional communities for teachers:

- Performance training sects: where a group of teachers follow a predefined program implemented by an authority to achieve predetermined improvement requirements; and
- Professional learning communities: where a group of teachers gather on their own to improve their knowledge and practice through shared inquiry. In this case teachers are responsible for their learning.

Although both choices try to bring teachers together around a specific goal and vision, Hargreaves (2003) advocates the latter because it treats teachers as active learners and delegates the responsibility of learning and improving to the teachers themselves in a collaborative culture.

Knowing that teachers can potentially benefit from professional communities in their PD, my next step would be to inquire into how online technologies might affect the development of such professional communities among teachers.

2.4 Web-supported professional communities for TPD

Using online communication tools along with an online collection of resources in TPD programs has become popular for more than a decade (Schlager & Fusco, 2004; Zhao & Rop, 2001). Backed by recent changes in TPD paradigm, the idea is that teachers will use online
contexts to form professional communities. I choose to refer to such communities as web-supported (Barab, MaKinster, Moore, & Cunningham, 2001), instead of internet mediated because I will only consider cases where members of the community are teachers who already know each other face to face. The following sections of this chapter will provide a more detailed account of this choice of terminology.

In spite of the potential affordance of online line technologies for teachers, there is still much doubt about efficacy and usefulness of web-supported TPD communities (Havelock, 2004). This section of the literature review provides an overview of studies conducted on web-supported communities for in-service TPD within the last ten years. Emphasis is on the studies conducted after the year 2000 and the analysis of two reviews of the literature (Barnett, 2002; Zhao & Rop, 2001) provides back ground information about research in the past 15 years or so.

Online communication tools, synchronous and asynchronous, play an important role in the development of web-supported professional communities. Asynchronous tools, like bulletin boards, offer teachers a more flexible and time/space independent means of communication where teachers can share information, collaborate on issues of interest, and engage in critical thinking and reflection (Harasim et al., 1997). On the other hand, synchronous online communication tools, like real-time text-based chats, offer more reciprocity.

Yet in an earlier work DiMauro and Gal (1994) warn that teachers will not automatically use online communication tools for reflective professional dialogues unless there is proper technological and social infrastructure in place (DiMauro & Gal, 1994). It is not surprising to see the same issues and challenges of web-supported communities in web-supported communities for TPD. However, investigating whether having teachers as members of the web-supported
community will add more challenges to the development and growth of such communities, would be also interesting.

2.4.1 Affordance of online communication technologies for TPD

Reasons for the popularity of interest in developing web-supported communities for TPD originate from the potential of online technologies for teachers to share information and classroom experience (Barnett, 2002; Harasim et al., 1997), to connect with colleagues outside their immediate physical space (Zhao & Rop, 2001), to reduce their isolation as classroom teachers (Zhao & Rop, 2001), to alleviate the dominant culture of privacy among teachers (Hargreaves, 2003; Zhao & Rop, 2001), to access professional development opportunities that fit their needs (Zhao & Rop, 2001), and to find like minded colleagues, and collaborate on common interest issues (Zhao & Rop, 2001). Communicating through online communication tools may facilitate reflective dialogues in that teachers will have more time to think about an idea before reflecting about it. Also, depending on the policies of the web-supported community about anonymity, teachers may feel safer about expressing their opinions to their peers (Zhao & Rop, 2001).

2.4.2 Previous research on web-supported communities for TPD

Questioning the actual use of online communication tools among North American teachers and challenging the quality of research conducted in this area, Zhao and Rop (2001) examined pertinent literature to evaluate the practicality and real value of online communication tools for TPD. That review consisted of 28 papers, both empirical studies and research reports describing 14 projects for in-service TPD that used online communication tools. Similarly, but focusing only on empirical studies, Barnett (2002) examined 24 such professional development programs
for pre and in-service teachers to explore the effect of online communication technologies on TPD.

Zhao and Rop (2001) and Barnett (2002) identified four emergent themes in the claimed achievements of using online communication tools for TPD.

- **Reducing teacher isolation and facilitating information exchange and experience sharing:** With online communication tools teachers were claimed to have broadened their connections with other colleagues and had more chance to collaborate and discuss about practice related issue;

- **Promoting new practice and supporting teachers in implementing it:** Although Zhao and Rop (2001) identified this as a major goal of their reviewed studies, they do not provide further explanation of how the networks succeeded or failed in this regard;

- **Developing a community of teachers around practice:** Both Zhao and Rop (2001) and Barnett (2002) argue the claim that teachers’ use of online communication tools would lead to development of web-supported CoPs. Zhao and Rop (2001) noted the casual use of the term community in the reviewed studies. They observed that any group of teachers communicating with each other, were called a community. Likewise, Barnett (2002) identified lack of consensus about characteristics and function of web-supported CoPs; and

- **Developing a reflective discourse on teaching practice:** in both literature reviews this theme proved to be the most controversial because the reviewed studies failed to provide enough evidence to back up their claim (Zhao & Rop, 2001). Barnett (2002) found conflicting evidence in this regard.
The similarity between Zhao and Rop (2001) and Barnett (2002) shows the prevalent interest in changing the culture of teaching through developing communities of teachers in online settings. It is implied that by taking teachers online they will have a chance to express themselves and progress in ways that have been impossible before. However, only one of the reviewed studies investigated if participating in online discussions actually affected teachers' practice and the result was negative (Barnett, 2002).

2.4.3 Factors identified to impact web-supported communities of teachers

Even within the limited scope of the reviewed literature, Zhao and Rop (2001) and Barnett (2002) identified a number of factors that affected the success of online communications among teachers.

Factors that affected successful development of online communities among teachers ranged from technological issues to more complex social issues. Teachers' access to connected computers and their proficiency and confidence using online communication tools had an instant effect on the development or failure of online discussions (Barnett, 2002; Zhao & Rop, 2001). Another relevant factor had been stability of the employed technology. Teachers will use a piece of technology only if it works in a straight forward manner (Zhao & Rop, 2001).

Whether or not teachers felt the need to communicate with other teachers online and the perceived relevance of online communication to their everyday work also affected the development of online discussions (Barnett, 2002; Zhao & Rop, 2001). Zhao and Rop (2001) noticed that the majority of efforts to use online communication tools among teachers originated from universities and not from within the k-12 teachers community. The degree to which the passion of university professors is consistent with teachers' immediate needs will lead to teachers active or non participation (Zhao & Rop, 2001). University involvement in the initial
development of online communities among teachers has other implications as well. It is possible that the university provides funding, technological support, and discussion moderation. In this case, sustainability of the online community becomes questionable as soon as the university stops supporting the developed online community (Zhao & Rop, 2001).

Issues related to social aspects of online communication and community building should not be neglected. Teachers are not used to putting their thought or concerns in black and white to the judgment of their colleagues. They can also question the quality of online communications and how credible they are. It takes carefully designed activity structures and discussion moderation to make them trust the online communication process (Barnett, 2002). Barnett (2002) suggests the use of face to face meetings in establishing and maintaining trust among teachers who are members of online commutes.

2.4.4 Common methodological flaws of previous studies

Zhao & Ropp (2001) and Barnett (2002) identified a number of flaws in the research design of reviewed studies that made the findings less reliable. Among these design flaws were failure to provide empirical evidence of the claims the networks made (Barab, MaKinster, & Scheckler, 2004; Zhao & Rop, 2001), failure to triangulate collected data (Barnett, 2002; Zhao & Rop, 2001), absence of qualitative analysis on the content of online communications (Zhao & Rop, 2001), failing to address how other forms of communication among teachers affected their online communication (Barnett, 2002), not considering the effect of different online communication tools on the quality and flow of online discussions (Barnett, 2002; Zhao & Rop, 2001), and the short period of the studies which makes claims about community development questionable (Barnett, 2002; Zhao & Rop, 2001).
In response to the methodological shortcomings of previous studies and acknowledging the infancy of research in this field (Barnett, 2002), Zhao and Rop (2001) and Barnett (2002) proposed guidelines for future longitudinal research that examines:

- How teachers benefit from membership in web-supported communities;
- How will a web-supported community answers teachers’ needs;
- What is the evidence for development of a web-supported community among teachers;
- Effect of teachers’ online communication on their practice;
- Difference in use of online communication tools among different groups of teachers;
- What combination of online communication tools will facilitate the development of a web-supported community among teachers; and
- Whether teachers succeed to build and maintain a web-supported community among themselves.

2.5 Three web-supported teacher communities

Works of Zhao and Rop (2001) and Barnett (2002) demonstrates some of the issues that developers of web-supported communities for teachers have been tackling with from the early days. To further increase my understanding of how web-supported professional communities of teachers develop, and how teachers use online communication technologies and resources to enhance their professional knowledge, I studied three recent web-supported professional communities of teachers in detail. These communities are Tapped-In, Inquiry Learning Forum, and New Teacher Support E-Mentoring Project.
I have purposefully selected these three web-supported teacher communities because they are initiated from academic contexts and each represent different approaches to develop such communities. Tapped-In has a general focus and is not limited to certain groups of teachers; virtually anyone who is interested in education can become a member. Inquiry Learning Forum on the other hand, has a math and science focus and has more restricted access policies. Finally, New Teacher Support E-Mentoring Project is a local community that provides mentoring services to new teachers in certain geographical regions.

I should note that the literature on web-supported CoPs for TPD is limited in quantity and quality because the topic is still very new. What’s more, there are not many empirical papers that draw on extensive data. Most papers are descriptive, making it difficult to draw out clear conclusions that set the stage for further research. However, the papers I have chosen, especially in the case of Tapped-In and Inquiry Learning Forum are detailed and have strong theoretical backgrounds. Another issue is that most of the papers I have used for this part of the literature review belong to the time frame of 2000 to 2004. I searched for more recent works in UBC library collection, online data bases of UBC library, and the Internet. I even talked to four or five of the authors I knew, mostly from Tapped-In and Inquiry Learning Forum research teams, and they told me the collection I have is almost complete. One author promised to send me a copy of her recent article about new teachers’ experience with Inquiry Learning Forum, but I did not get a response upon contacting her about the article.

2.5.1 Tapped-In (TI)

The Center for Technology Learning (http://www.ctl.sri.com/) at the SRI international (http://www.sri.com/) launched Tapped-In (TI) (www.tappedin.org) in 1997 and they have been constantly revising and refining it ever since (Schlager & Fusco, 2004). TI is a virtual learning
environment that offers new opportunities to connect with and benefit from the existing pool of professional expertise to anyone, either person or organization, who is involved with TPD. Use of technology to support human socialization makes TI a socio-technical structure. Funding for this project has been provided by the National Science Foundation (http://www.nsf.gov/) since 1997.

Members of TI

TI, as defined by Fusco, Gehlbach, and Schlager (2000), is an online education CoP that promotes ongoing TPD and is based on the notion that the teachers' need for TPD varies in different stages of their professional life. Through TI, teachers have online access to a variety of TPD opportunities to use at their own convenience. Moreover, educational organizations can offer their services to a bigger audience more cost effectively. TI provides opportunities for educators to break out of isolation or complement their professional network by engaging in informal professional interactions and developing a professional community (Fusco, Gehlbach, & Schlager, 2000; Schlager, Fusco, & Schank, 2002).

Technological infrastructure of TI

TI is developed as a web-based, platform independent, multi-user virtual environment to be accessible from all technological infrastructures and maintainable as technologies change over time. TI uses a building metaphor to direct members to their places of interest. Interactions among users take place in virtual rooms equipped with synchronous/asynchronous communication means, white boards for public announcements, note taking tools, virtual tape recorders for recording synchronous communications, webpage projection tools for showing a webpage during online communication, and many more. These tools are modified or new tools are added as the technological infrastructure of schools and other educational organizations
becomes more advanced and members themselves become more competent with the tools (Fusco et al., 2000; Schlager et al., 2002).

**What does TI offer?**

Teachers who join TI through their organization can communicate with a diverse population of peers across organizations. Organizations can use the online resources and communication tools to offer their services to more teachers. Presence of multiple organizations allows teachers to have access to expertise, resources, and ideas that are above any single organization’s limit. All of these are supported by a committed staff at TI that facilitates online communications and helps members to use online resources (Fusco et al., 2000; Schlager et al., 2002). It is expected that the membership diversity in TI leads to informal discussions and exchange of ideas (Fusco et al., 2000).

**TI’s strategies for scaffolding community growth**

TI is expected to grow as individuals and organizations join, participate, and leave, giving their place to new members (Fusco et al., 2000). Still, it faces some obstacles in cultivating a web-supported CoP. Added to the isolated nature of educational organizations is the lack of teacher’s access to high end internet connected computers at their workplace. Yet, Schlager, Fusco, and Schank (2002) provide evidence of development of a CoP within TI. They argue that, after an organization leaves TI a portion of its population stay back and become experts within the community (Schlager et al., 2002). Furthermore, data collected on the rate of membership requests, number of logins per month along with the time spent in each login since 1997, show a steady growth in the number of people who join the community (Schlager et al., 2002).

Although participation rate has grown in quantity, according to Lave and Wenger (1991) and Wenger (1998), TI can only be identified as a CoP when its members move in a continuum from
peripheral participants to central members of the community. TI has developed a number of strategies to enculturate new members in the community, scaffold the process of community building, and assist members in taking ownership of the community. The strategies include:

- **Community Help Desk**: Help Desk was first moderated by TI research team to assist members. After a time, experienced members were recruited to replace research team members. Any member who wants to serve as help desk moderator works with an experienced moderator for some time until they feel confident enough to take control of the Help Desk. Over the time they have developed a collection of FAQs and common tips (Schlager et al., 2002);

- **After School Discussions**: Weekly synchronous discussions take place every week for one hour and are moderated by volunteer community members. Members can suggest topics for the discussion or organizations can use it to share their services and programs with teachers;

- **Free Private Offices**: members can request a personal office where they can keep record of their favorite places in TI, useful documents, or daily activities. In addition, groups of members can use these virtual offices for online meetings. Each room contains a set of communication tools like text-based messaging, threaded discussion forum, automatic transcriber of all discussions, saved messages for someone who is not logged in, information about who is logged in, webpage projection for the group, room notes, and file sharing;

- **Newsletter**: “On the Tapis” is a monthly newsletter emailed to all members to inform them about community news and events. This way TI manages to keep in touch with less active members and remind them of their affiliation to the community; and
• **Email list:** members can join “Meet Me” email list to introduce themselves, share their interests and ideas, ask for advice, or arrange meetings in TI.

Central to everything is the Community Director who plans for activities and services that attract people to the community and encourages them to participate in community activities. The Community Director organizes events, recruits volunteers, provides mentoring and technical support, and conducts research about TI.

**Reviewing research conducted on TI**

During its 9 years of operation, the TI research and design team has published a number of papers that discuss the issues they have faced in keeping TI up and running. I have analyzed most of those papers to gain an in-depth understanding about TI as a major web-supported education community.

To examine how the frequency of TI use affects participants’ feeling of isolation, knowledge about subject area, and teaching techniques, Fusco, Gehlbach, and Schlager (2000) asked all TI participants to fill out an online survey. They designed the survey to collect data in three fields: 
“(a) standard demographics and professional development activities; (b) technology use, and skill rating; and (c) TI use, affordances, and barriers” (Fusco et al., 2000) (p. 2179).

Analysis of a part of survey results supported the hypothesis that spending more time in TI had a positive effect on knowledge of subject area, teaching techniques, and reducing professional isolation. The analysis also revealed the following list of major barriers that participants faced in using TI in a descending order:

- Lack of time to participate in online activities;
- Difficulty learning TI commands;
- Difficulty learning to navigate the environment;
• Difficulty to arrange meetings in TI; and
• Lack of administrative support for TI use at workplace.

With the majority of survey respondents being k-12 teachers, Fusco, Gehlbach, and Schlager (2000) propose that time can become less of a barrier if educational organizations support teachers to use TI as a professional activity. Clearly “lack of administrative support for TI use at workplace” is closely related to first barrier which calls for strategies to inform administrative level policy makers about the advantage of teachers’ use of technology in their profession and also in students’ learning. However, Fusco, Gehlbach, and Schlager (2000) do not articulate those perceived benefits.

The second and third barriers had implications for TI technological design team to appropriate the interface to the level of members’ technological skills. In this particular study researchers have proposed designing a newbie version for less technology savvy members. However, from my conversations with current staff and users of TI, the newbie version is not implemented. Instead the whole design of community has been refined and revised to make it more usable for members of TI.

Although limited in depth, this preliminary analysis (Fusco et al., 2000) guided the next steps of TI research and design team: attracting administrative level’s attention to support and legitimize teachers use of TI; and making TI’s interface suitable for teachers.

No recommendation was made for the fourth barrier (Fusco et al., 2000). This barrier emphasizes on the conception of TI as a socio-technical infrastructure in that online communication tools are supposed to enable fluid interactions among members.

From their experience with online communications, TI developers and researchers assumed that teachers and TPD providers could readily start meaningful online discussions. Analyzing the
online discourse of a group of teachers in TI would provide evidence to support or reject that assumption. Fourteen teams of high school and community college teachers who participated in a professional development program related to earth and space science attended two summer institutes to learn about inquiry based learning and were introduced to TI in a morning session.

During the school year, they took part in six text-based synchronous online meetings led by the project leaders, followed up with the classroom implementation of their projects. Full transcripts of the online meetings were analyzed to determine how social talk and technology constraints affected the flow of discussions. Content and flow of online meeting transcripts were quantified and categorized using a coding scheme adapted from face to face collaborative work. Researchers reported the following most frequent categories of discourse (Schlager et al., 2002):

- Business focused: Number of utterances about the meeting agenda increased toward the last online meeting. In the beginning, project leaders who moderated online meetings had a smaller share in business focused comments. Later in the meetings this difference was balanced;

- Meeting management: this category had two peaks one in the first session of online meetings and the other in the third session when project leaders decided to change the meeting management process to improve the flow of discussions;

- Technology related: comments and questions about TI or participants' online experiences declined after the first meeting. However, as new users joined the online meetings in the third session, the number of technology related comments did not decline further; and

- Social: project leaders and participating teachers contributed equally to social dialogue. The amount of this category was maintained in all online meetings suggesting that
participants engaged in social discussions no matter how comfortable they were with technology.

Although it took time for both project leaders and participating teachers to acquire online discussion skills, analysis of data in this case showed it is possible to carry on professional discussions in online settings (Schlager et al., 2002).

Admitting the differences between face to face and online meetings, like lack of visual clues, Schlager, Fusco, and Schank (2002) proposed that more frequent experience with online communication tools in addition to higher comfort level with those technologies could lead to productive discussions. The implications would be that web-Supported communities provide opportunities for teachers who are new to the use of online technologies to engage in informal discussions with more experienced members. Thus, a new web-Supported community may need to invite experts who are not members of the community to facilitate the initial learning stages of community members. That is to say, it takes time and previous work on the part of web-supported TPD community developers to design activities and provide incentive for teachers to get familiar with the online context. Only when appropriate scaffolding is in place, will teachers be able to conduct meaningful online discussions and start to build a community.

Professional Support Portal was a Milwaukee Public Schools initiative that used technology to offer ongoing and scalable TPD in that district to improve new teachers’ retention rate. TI provided the online infrastructure for one component of this initiative, Online Professional Support Community (OPSC). The infrastructure for OPSC should have: (a) supported opportunities for communicating, information sharing, and exchanging experiences among new and experienced teachers through multiple modes of communication (e.g. email, asynchronous discussion forum, real-time chat, and list serve); (b) developed a sense of belonging to the
district among teachers by informing them about opportunities and events; and (c) provided opportunities for teachers to connect with higher education institutions (Sharrat & Usoro, 2003).

With the above requirements in mind and guided by previous findings (Schlager et al., 2002), the TI research and design team committed to design a web-supported community for OPSC. Moreover, to assist Public Support Portal in developing a sustainable and scalable web-supported community, the TI research and design team would collect and analyze data of a pilot study on how technology-supported teacher networks could serve teachers' need for professional support (Sharrat & Usoro, 2003).

Two hundred and fifty teachers, 50 of whom were facilitators, participated in the pilot study in 2002 school year. The Milwaukee Public Schools gave them free laptops and email accounts in the exchange for their participation in the pilot project. Participants were trained to use the TI environment and were required to take part in face to face peer support groups, each led by a facilitator. As part of their commitment, participants were required to use PSP pilot portal on TI and provide feedback on its content, structure, and usability. TI’s Virtual rooms were at participants’ disposal for online group work (Schlager, Fusco, Koch, Crawford, & Phillips, 2003).

TI research team noticed three factors that puzzled facilitators. First, they had no idea of what they were supposed to do as a facilitator teacher. Second, they were concerned about the time commitment of this position. And finally, they were worried that the quality of their professional knowledge would not be suitable for offering guidance to other teachers (Schlager et al., 2003).

Defining the role and responsibilities of group facilitators solved the first and third confusion. TI research team noticed that the second concern was related to facilitators' hub-and -
spoke conception of peer support models, while TI uses a network model with a pool of experts offering their service to the whole group. This model changes the time commitment for experts (Schlager et al., 2003). In accordance with TI’s community model, members of PSP were encouraged to take on leadership roles and help desk staff.

Schlager et al. (2003) do not provide empirical evidence on why PSP was successful in building a sustainable web-supported community, other than quantitative measures about number of people who had joined the portal and the number of groups that were forming. They argue that cultivating a successful and sustainable CoP is a matter of years and that they need to study the network in the next year when teachers would voluntarily use PSP (Schlager et al., 2003). TI researchers believe that it takes years before one can provide credible evidence that a community is actually functioning. I did not find any future research report about PSP.

**TI as a web-supported CoP**

Considering recent research on TPD and tendency of researchers to identify CoP as a catalysts for effective TPD, Schlager and Fusco (2004) look for the possible interrelation between existing individual TPDs and concept of CoPs. They look to find ways in which systemic CoPs can strengthen the already existing TPD efforts.

The TI research and design team have tried to implement its community based on Wenger’s (1998) characteristics of a CoP. However, after some years Schlager and Fusco (2004) are not sure of how appropriate the CoP label is for TI. As the examples above show, TI has been successful in attracting teachers, organizations that provide professional development, and researchers who use its socio-technical infrastructure. Those who join TI, engage in discussion and collaboration and over the time develop a shared language and history. However, it is difficult to recognize the “practice” around which those members form a community.
Teachers’ main practice is what they do at school and they have a community around it. So when it comes to their participation in TI, it is hard to decide if their participation is directly related to the practice of their local community. The problem is that TI is not designed in accordance with teachers’ local TPD efforts (Schlager & Fusco, 2004).

That’s why Schlager et al (2003) suggest that TI should be integrated in systemic TPD. The new approach enables systemic TPD providers to increase their capacities and provide teachers with more equitable access to relevant TPD programs (Schlager & Fusco, 2004; Schlager et al., 2003). Once acquainted with TI through their immediate community, teachers can take on responsibility of their development and use TI resources and human capital to increase their proficiency (Schlager & Fusco, 2004).

Schlager and Fusco (2004) emphasize that the surrounding community affects the adoption of any innovation. If the existing community is left out from introduction to the innovation, it will not support those who adopt the innovation in early stages, leading to their isolation and consequently causing the innovation to fade away. The role of internet in boosting the alignment between needs and norms of the existing community and the offerings and demands of an innovation calls for further research (Schlager & Fusco, 2004).

So the questions would be what kind of a socio-technical infrastructure can help existing communities in education to show the characteristics of a professional community? Schlager and Fusco (2004), argue that CoPs in education are different from CoPs in other profession in that they have different local domains of interests. So when it comes to a major web-supported CoP, identifying the domain of practice becomes confusing.

Based on their experience with TI, Schlager and Fusco (2004) propose eight guidelines for researchers and designers who are interested in developing of web-supported education CoPs.
The guidelines explain how technology can be used to support and nurture existing local education communities of practice:

- **Learning processes:** interest in CoP for TPD stems from the rich informal learning opportunities that newcomers find as they work with more experienced practitioners. Accordingly, the online environment for teacher communities should support flexible learning opportunities where teachers can initiate and end activities as they need to; i.e. where they can own and customize the tools to meet their needs;

- **History and culture:** a CoP has a history and a collection of artifacts that reflect its norms and culture, which, in the case of long established communities, are quite resistant. Newcomers inherit a CoP’s history and artifacts and contribute to it. Seahlger and Fusco (2004) make the case that the history and artifact of a web-supported CoP being visible and accessible to members of all levels is an asset. In such an open environment, they assume more opportunities for new members to change the old norms and bring about innovations. This guide post, to me, looks more aspiraional rather than practical. It is true that online technologies can potentially facilitate more extensive commutation between members, but this will not happen unless members of an existing community decide to use the online component of the community. Also, Schlager and Fusco (2004) have suggested that online technology can help a community start less hierarchical communications. Again, the potential is there, but how it turns to reality depends on the willingness of community members to legitimize it;

- **Membership Identity and Multiplicity:** in an education CoP expertise is distributed among members. Online technology should support this multiplicity of roles in
different activities within the community. The online infra-structure should allow subsets of members to join in small, purposeful groups while they are still a part of the larger community.

- **Community Reproduction and Evolution:** online technologies can facilitate informal communication among novice members and more experienced members of a CoP. This way the reproduction process of the CoP speeds up through activities like making connections between practicing teachers and pre-service teachers. However, an online community will accommodate this kind of communication if both practicing teachers and the university are willing to do so. Undoubtedly, online technology cannot work miracles in bringing everyone online, it only makes this process easier and more feasible.

  Online technologies can also maximize the use of available expertise in education communities by developing a pool of expertise and implementing a networked model of coaching and mentoring. However, structures and policies for identifying possible mentors and coaches, announcing their areas of expertise, and most importantly, controlling the quality of their work, are among challenges that the network model would face (Schlager & Fusco, 2004). It is the existing community that can solve these challenges. Technologists would be able to assist the community to implement those solutions in the online infrastructure;

- **Social Networks:** online technologies are double edged swords in either facilitating or impeding active participation of education community members. Members of CoPs belong to social networks within and across CoP boundaries through which knowledge is created and spread through the community. The effect of online
technologies on the development of online social networks is still unknown. Schlager and Fusco (2004) emphasize the need for using social network analysis tools to study how members of an online CoP move in the continuum of participation along the time. Such studies will guide technology designers in revising the socio-technological infrastructure of online CoPs;

- **Leaders and Contributors:** leadership in a CoP is different from its conventional forms in educational communities. In a CoP leadership exists in various levels, from setting up a group to accomplish a task, to contributing, to offering one's expertise to other members. Technology should assist members to take on leadership roles at all levels. In other words, Schalger and Fusco (2004) challenge the access level to moderating the online infra-structure. I think giving equal access to all CoP members has cons and pros. On one hand, with all members having the same access level, it is guaranteed that they can take any initiative they like. On the other hand, quality control becomes critical. Who would have the legitimacy to oversee the quality of services? Schlager and Fusco (2004) do not provide answer for this question;

- **Tools, Artifacts, and Places:** recognizing the best time to introduce technological tools to a community to enhance leaning and collaboration is as important as the intention to do so. One common error in introducing new technologies to existing education communities is the lack of provision for how these tools will be used by members and if the tools are appropriate for that community. From another perspective if small groups within a large community start using their own set of tools, after a time the community becomes fragmented because tools will not be transferable form one group to the other (Schlager & Fusco, 2004). It is Schlager and
Fusco’s belief (2004) that before introducing new tools to a community, designers should consider if these tools also fit within the larger community.

In designing an online infrastructure, designers and technologists should keep teachers communication needs in mind. Among important components of any such infrastructure, are structures where teachers can informally share what they face in their practice (Schlager & Fusco, 2004); and

- **The Practice**: the practice of organizations constituting k-12 education system is different from others. Classroom teachers have their own practice of teaching children. Providers of professional development, on the other hand share a distinct focus of improving teachers’ knowledge and skills. Consequently, it is hard to assert that an education CoP exists in the school system. The goal of using online technologies then is to support these discrete CoPs and meanwhile bringing them closer to each other in their use of technology. In order to do this, designers of online infrastructure should consider the whole educational system while attending to the needs of a subsystem.

Schlager and Fusco (2004) argue that any initiative that attempts to use online technologies to develop web-supported CoPs in education, should attend to all of the above guideposts.

**Final word on TI**

In both 2002 and 2003 papers, TI research and design team express that they are far away from claiming the development of a successful web-supported CoP. They argue that it takes time and resources for a community to become sustainable. Most of the success measures provided in the collection of papers about TI are quantitative. There is little discussion about how the quantity of work in TI shows its success or at least making progress toward success.
Also, missing from the research on TI is the effect of anonymity on the flow and depth of discussions. The research and design team include the issue in their design model (2003) but do not discuss its implications. TI has been using a very open identification policy where all users must include their personal information.

From the collection of papers on TI, especially Schlager and Fusco (2004), I understand that the existing face to face community of teachers has a profound role in adopting, initiating and maintaining a web-supported CoP. Without their willingness and without their perceived need for a web-supported component chances are low that an external initiative can succeed.

2.5.2 Inquiry Learning Forum (ILF)

Starting in 1999 the Inquiry Learning Forum (formerly Internet Learning forum) (http://ilf.crlt.indiana.edu) was designed and has been constantly revised as a web-supported community to support in-service and pre-service secondary school level math and science teachers’ PD with an emphasis on inquiry-based approaches. Until recently, ILF was fully funded by the National Science Foundation.

ILF originated from informal discussions among researchers at Indiana University School of Education, and was further developed in 1999 in a seminar course with 15 graduate students and six faculty members. Guided by situativity theories (Barab & Duffy, 2000), students reviewed literature about “online communities, knowledge networking, communities of practice, and professional development” to develop a prototype of an online community to support math and science in-service and pre-service teachers (Barab et al., 2001). In addition to the theoretical perspective of research team, practical issues such as minimal contact between pre-service and in-service teachers, no opportunities for in-service teachers to visit each other’s classrooms, and
teachers' licensure requirements, also shaped the design (Kling & Courtright, 2004; Reynolds et al., 2001).

ILF intended to provide a context for pre-service and in-service teachers to form a CoP (Wenger, 1998) around inquiry-based practice in math and science (Barab et al., 2001; Barab, MaKinster, & Scheckler, 2004; Kling & Courtright, 2004; Reynolds et al., 2001). The ILF research and design team define a community of practice as: "a persistent, sustained social network of individuals who share and develop an overlapping knowledge base, set of beliefs, values, history and experiences focused on a common practice and/or mutual enterprise" (Barab et al., 2004) (p.55 italics in original). ILF has gone through constant design revisions to actualize this online community of practice (Barab et al., 2001).

Members of ILF

In the beginning, it was envisioned that teachers with different expertise and various experience levels would join in ILF to improve inquiry-based teaching and learning by sharing their classroom practices and experiences and reflecting on them. ILF original target audiences were secondary school level math and science teachers (Kling & Courtright, 2004). Later ILF broadened its scope to serve all k-12 teacher, administrators, university faculty members and pre-service teachers who are interested in learner-centered classrooms (Inquiry learning forum – user guide.).

Identifying the need for ILF

Students and university professors in the seminar where ILF was first developed, surveyed 5 to 10 teachers from each group of experienced teachers (with more than five years of teaching), new teachers (one to 5 years of teaching), and student teachers to find out their expectation for TPD from a web-supported CoP (Barab et al., 2001).
Teachers from all three groups expressed a desire to connect to peers and more experienced colleagues. Especially, new teachers and student-teachers favored working with more experienced colleagues. When asked about the kinds of professional resources they needed, novice and student teachers called for resources that assisted them in their daily practice while experienced teachers asked for information about workshops and professional development seminars. Teachers also expected that a web-supported community provided opportunities to discuss classroom issues. Experienced teachers wanted to be informed about new ideas whereas less experienced teachers needed opportunities to share their practice with their teachers and ask for feedback (Reynolds et al., 2001).

**Design principals of ILF**

Results of the survey (Reynolds et al., 2001) acknowledged that teachers preferred to learn about their practice in classroom contexts rather than in short term, out of classroom workshops. The idea of sharing classroom practice, together with the design and research teams’ vision for developing a teacher led web-supported community and their situative theoretical disposition towards professional learning (Barab & Duffy, 2000) formed the basis of a series of design principals. The design principals have been modified as ILF has gone through several revisions. A synthesis of the design principals reveals three major themes:

- *Visit the classroom:* Classroom teaching skill consists, in part, of tacit knowledge that can only be understood through observing the actual teaching. These observations provide a basis for discussion, reflection, and analysis of practice among teachers. Time restrictions inhibit teachers from physically visiting the actual practice of their colleagues. In ILF teachers can do this by sharing videos of their practice with others to observe and then reflect on. Each video becomes a source of learning in the social
context of practice and allows teachers to share their knowledge and expertise with a larger community (Barab et al., 2001; Barab et al., 2004; Reynolds et al., 2001). However, this will happen only when videos are complemented with additional information about the video taped classroom and an accompanying discussion forum;

• Community building: for a sustained education CoP, teachers should be involved in community building activities. These activities fall into two major categories: cultivating the community, and sustaining it. To cultivate the community in the initial stages, ILF collaborated with master teachers as old timers of the community (Reynolds et al., 2001).

The ILF team later acknowledged that teachers will join the community and contribute to it only if it meets their changing professional practical needs and concerns. Although ILF is focused on inquiry learning in math and science, not all teachers who join it have the same level of interest and focus on inquiry learning. That’s why ILF team provisioned strategies where like minded teachers could collaborate on their issues of interest. Supporting “communities of purpose” (Barab et al., 2004) (p. 6) has not been an initial concern for ILF, but the team felt its necessity for keeping ILF relevant to teachers practice; and

• Fostering ownership: Consistent with the underlying notion of effective TPD-promoting professional learning through participation in a community of teachers-ILF encourages teachers to take ownership of their web-supported community. ILF, as a web-supported community, will not sustain unless teachers with different levels of expertise and diverse interests accept the commitment to build a community around their classroom practice and maintain it.
The electronic environment of ILF should have structures and policies for gradually delegating community ownership from the academic design team to practicing teachers (Barab et al., 2001; Barab et al., 2004).

With these structures in place, ILF design team hoped that teachers could develop a CoP focused on inquiry learning (Kling & Courtright, 2004).

**ILF’s Strategies for scaffolding participation**

Guided with the design principals and the results from further surveys (Barab et al., 2001), ILF contains structures that encourage participants’ collaboration and situated knowledge building. Major parts of ILF community are:

- **ILF classrooms**: teachers provide a sample video of their classroom along with lesson plan, goals of instruction, their own reflection about the session, and questions for other teachers to initiate the discussion. In each ILF classroom members can watch the video clip, review providers’ notes, and participate in the discussion about that video (Barab et al., 2004);

- **Collaboratory**: groups of ILF members who are interested in a specific topic gather in Inquiry Circles within the collaboratory space (Barab et al., 2004). In their Inquiry Circles, members form purposeful communities to discuss, develop, or share their common interest;

- **Library**: Instead of providing myriads of downloadable lesson plans, ILF intends to empower and assist teachers to develop their own pieces of work. Consequently, the lesson plan collection is a small part of the ILF library which contains a variety of resources related to classroom practice, educational theories, and policies (Barab et al., 2001; Kling & Courtright, 2004);
• **Lounge:** consistent with the idea that a community needs informal spaces for sharing, members of ILF can participate or initiate general discussions about inquiry leaning and teaching in the lounge area (Barab et al., 2004);

• **My desk:** each member owns a personal virtual space to store bookmarks to their favorite parts of the community, store files, or keep a virtual journal (Barab et al., 2004). Teachers also receive information about new activities in the community and recent postings in their favorite discussion forums (Barab et al., 2001). The ILF team proposed that this personal space is important for teachers who do not have a private work place within schools;

• **Inquiry lab:** members can join these workshops that are designed according to Concerns-Based Adoption Model (Hall & Hord, 1987) either to learn about or refresh their knowledge about inquiry based teaching and learning (Barab et al., 2004); and

• **ILF office:** is a place to serve those who want to join ILF and members who need assistance or want to make suggestions.

These structures are somewhat similar to those of TI. But they are customized to serve ILF’s focus on inquiry-based teaching and learning.

**Access policies in ILF**

Teachers who wish to join ILF fill out a registration form but their information is not shared within the community unless they specify so. Requests for membership are reviewed to make sure it is submitted by a student teacher, a practicing teacher, or someone affiliated with the ILF project research team. Access to ILF classrooms is limited by username and password to make a
safe and trustful environment for sharing real classroom practice (Kling & Courtright, 2004). Inquiry Circles are only accessible to their members (Barab et al., 2004).

Levels of participation in ILF

As a web-supported CoP, ILF has stages of membership spanning form team members who are at the university level, observers who only browse the discussions and do not post anything, active members who participate in discussions and post messages, contributing members who share videos of their classroom practice with others, and bounded group members who are interested in a usually defined activity or a specific project (Barab et al., 2004).

ILF members can move in this continuum based on their needs and interest in activities of the community. Membership levels are not restricted to these categories; rather, members are encouraged to take on leadership roles, like discussion moderator. The transition of community coordination from ILF team to teachers is essential for teachers to take the ownership of their space (Barab et al., 2001).

Review of research conducted on ILF

When first developed, ILF held the promise to have many advantages over traditional TPD. First and the most important one was its being current and up to date. Because teachers with different expertise and interests along with academics and professional development providers could update the site and add new things, ILF would be more comprehensive than other TPD efforts (Reynolds et al., 2001).

Linking classroom teachers to education university professors was the second advantage. This opportunity broadened teachers' professional community to a higher level. Besides, university professors could direct their student teachers to use ILF as a live professional resource where they could collaborate with practicing teachers (Reynolds et al., 2001).
Third, with asynchronous discussion forums as the main communication tool, teachers could contribute to ILF at their own convenience and have access to the archive of discussions at any time they needed (Reynolds et al., 2001). Finally, within ILF, teachers can take one more step toward effective TPD by reflecting on their practice while they are engaged in practice (Reynolds et al., 2001).

In the following years, ILF team focused their research on effective use of online technologies in building a sustainable and scalable web-supported CoP, finding solutions to personal and technological barriers of teachers use of web-supported CoPs, examining the effect of ILF on teacher’s classroom teaching, and dealing with issues related to enculturation of new members to ILF (Barab et al., 2004; Reynolds et al., 2001). What follows, shows how the idea of ILF matured through application of research findings to the structure of this online community.

One of the controversial issues in the first revisions of ILF was sharing video clips of teachers’ classrooms. When ILF received funding in 1999, six math and science teachers were invited as the Teacher Advisory Board and became involved in the research and design process. The Teacher Advisory Board was concerned about the quality of submitted videos and thus developed a protocol for reviewing them. Despite the good intention of providing high quality samples for other teachers, the reviewing process problematized ILF’s intention to share everyday classroom practice versus demonstration of exemplary practice (Barab et al., 2001; Barab et al., 2004).

The Teacher Advisory Board was also concerned about the complexity of ILF’s interface. Initially, ILF website was designed as a virtual school hallway with clickable doors that took teachers to different parts of the site. The ILF team assumed teachers will be more inclined to develop web-supported community in a place that resembles a building. Yet, teachers in the
advisory board found the interface complicated and hard to navigate. They wished for a simple interface where they can access different parts of the ILF with minimum number of clicks (Barab et al., 2001).

The final issue that affected the approach of the ILF team was teachers' lack of communication skills in the ILF environment. Coming from an isolated classroom context and a culture of privacy, teachers found it difficult to comment on other teachers' video clip. At this point the design team realized that without structures to support social interaction, teachers in ILF could not succeed in building a web-supported CoP. Acknowledging ILF as a socio-technical entity that should support teacher to teacher interaction through online communication tools, the design team developed structures (described in previous section) that foster participation in the community. Structures of this kind, present in both TI and ILF, are essential to attract new members and need to be flexible enough so that groups of people who decide to join a community can modify them to meet their needs (Barab et al., 2001; Reynolds et al., 2001; Schlager, Fusco, & Schank, 2002).

To investigate how ILF members were using the structures and activities of the community, Barab, MaKinster, Moore, and Cunningham (2001) studied cases of one contributing member, one active member (with more than 7 posts), and one bounded group member. The contributing member and the bounded group member were practicing teachers and the active member was a student teacher. Data collection methods are not mentioned, but the authors provided a detailed description of how each member joined ILF, what the member was doing in ILF, and their reflections about experience in ILF.

The contributing member had gone through different levels of membership in ILF. In addition to sharing videos of his classroom teaching, he also belonged to the Teacher Advisory
Board. His main reason for using ILF was to receive critical feedback on his teaching approaches from people outside his school who did not feel uncomfortable criticizing his work. Yet, he had not been able to keep sustained online discussions and had not received much feedback from others. In addition to responding to messages sent to his classroom, he explored and contributed to other parts of ILF as well. Although he believed in the potential usefulness of a web-supported CoP for TPD, his expectations from ILF had not been met. (Barab et al., 2001).

The bounded group member restricted his use of ILF to the project in which he was involved and did not explore other places in ILF because of his busy schedule. He saw the potential of ILF in providing a context for TPD that was not bounded by time, but he was also frustrated by the limited number of teachers participating in discussions and also the small amount of communication among teachers. He also did not feel that participating in ILF has changed his teaching practice (Barab et al., 2001).

The last case was a student teacher enrolled in a graduate course who used ILF as a part of her course requirement. Her class was divided into small groups and in each group students were asked to use the discussion forum on a weekly basis to write reflections about their experiences and provide feedback on their group-mates reflection. Another requirement of the course was to post a message every week in a discussion forum different from their group’s. For this particular participant, posting messages in ILF was nothing more than an assignment. That’s why she never replied to any messages sent to her by other ILF members outside her classroom.

She did not think that participation in the forum would affect her teaching because she would experience different things than what she experienced at university after starting her teaching career. As a result, participation in ILF would not be relevant to her actual daily responsibilities (Barab et al., 2001).
The three cases show that only highly motivated teachers would take the time to explore all parts of a web-supported community without the requirement to do so. What's more, participating in ILF was detached from participants' everyday practice. Every structure in ILF was designed to increase possibilities for teachers' contribution to the community and finally taking over the ownership of the community. However, teachers had little clue of what they are supposed to do as owners of their own community (Kling & Courtright, 2004).

Up to this point ILF used different policies—like making connection with school districts, integrating ILF into teacher preparation courses, and inviting other TPD efforts to use ILF—to increase participation and consequently build a sustained CoP. Despite the efforts, Barab et al. (2001) are concerned if enough teachers would use ILF informally and persistently so that a web-supported CoP can grow and sustain. They characterize lack of participation to teachers' isolated and private professional culture and propose that for critical discussions to flow, teachers may need additional support from their schools, opportunities to build trust, and gain confidence with online environment.

In a later ethnographical study, Barab, MaKinster, and Scheckler (2004) further elaborated on the challenges the ILF design and research team faced in their attempt to support the development of a web-supported CoP. Wenger (1998) identifies four sets of dualities that are present in all CoPs and are essential to understand the dynamics of that community: Participation/Reification, Designed/Emergent, Local/Global, and Identification/Negotiation. The balance and bond between each set and among the four sets of dualities drives a community toward further development and growth. Barab et al. (2004) added two more sets of online/face to face and diversity/coherence dualities that are specific to web-supported CoPs where
community members come from a diverse range of expertise and experience. They analyzed ILF, as a CoP structure, according to these dualities:

1- Designed/emergent: there is no guarantee that a community works exactly in the same way that it was designed. Considering that community members are the ones to eventually take on the ownership, the initial design should only provide a platform for further development rather than a highly structured nonflexible framework. As shown above, ILF faced this duality early in its life, when teachers in the Advisory Board found the interface complicated and confusing (Barab et al., 2001). Afterwards, the ILF team, consisting mostly of academics, took a co-evolutionary design approach and collaborated with target community members; i.e. teachers. The team acknowledged that if teachers do not spend time learning how to navigate the ILF and participate in its activities and if the designed online structure did not work for them they would stop using it. However, even this approach proved problematic because the research and design team had a long term vision for ILF as a means for promoting inquiry-based practice, while teachers had urgent need to discuss about their topics of interest. Although resistant at first, ILF team decided to support small purposeful group to work in the collaboratory. These groups may never contribute to ILF Classrooms but they still count as community members (Barab et al., 2004).

2- Participation/reification: When sharing an experience, like a video of their classroom, teachers need to translate it in a presentable form. Lost are most of the contextual conditions of that situation. When teachers participate in a community, like ILF, samples of their work whether a lesson plan or a post to discussion forum, become representative or reified version of their ideas. After a time the reifications become a part of the history of community, based on which further participation will take place. Reification of ideas and experiences can limit
participation in the sense that community members accept the reified version and refrain from further challenging it. On the other hand if no reification takes place, participation will become scattered and loses its focus (Barab et al., 2004).

3- Local/global: The duality between local needs of teachers and global agenda of the ILF team is closely related to the duality of designed/emergent. From another perspective, what teachers do in their classrooms is so local that other teachers might find it difficult to apply the shared experience to their situation (Barab et al., 2004). One way to facilitate globalization of these local practices is to ask teachers to attach contextual information to their shared videos. The noticeable number of postings in ILF Classrooms asking for further information about the shared video shows teachers’ struggles to relate another teacher’s idea in their own setting (Kling and Courtright, 2004). However, the question of “how can ILF relate the local experience of one teacher to the urgent needs of other teacher?” still remains unanswered (Barab et al., 2004). A possible solution would be to base reform efforts on the immediate needs of teachers rather than aspirations of university professors.

4- Identification/Negotiability: Teachers who join ILF can choose usernames other than their real names and also, they can decide on how much of their personal information should be public. When it comes to ILF Classrooms and critiquing or commenting on someone else’s work, this partial identification hinders the flow of discussion. Teachers feel uncomfortable critiquing someone that they hardly know (Barab et al., 2004). With partial identification, teachers will have a hard time deciding if a posting is reliable and credible or not.

The second aspect of this duality deals with the fact that ILF was built for teachers’ use by university academics, a common issue among online communities that have been developed by universities. As discussed in the designed/emergent duality, teachers have to first identify with
the structure of web-supported CoP before they are able to contribute to it, a process that takes time and might lead to little participation. ILF design team decided to support small group works in the Collaboratory so that teachers start using a small part of ILF and gradually become competent in exploring the large community. However, success of this method is questionable since as Barab et. al. (2001) found teachers may only stick to their small Inquiry Circle and refrain from using other parts of ILF. To overcome this problem, Barab et. al. (2004) propose that each Inquiry Circle should be informed about related activates in other parts of ILF. But who, teachers or the design team, should be responsible for tracking small groups activities and making links between Inquiry Circles and the bigger ILD remains a question? And do teachers who have formed small groups want someone to watch what they are talking about?

5-Online/face to face: as discussed above the fact that teachers do not develop the online infrastructure of their community, entails challenges with regards to the ownership of that community. Teachers’ dependence on an external team to upload videos or add a discussion topic, for example, decreases the flow of participation.

Technical challenges are other discouraging factors for participation in web-supported CoPs. ILF has provisioned for help systems, but the fact that trust is harder to develop in online settings, hinders some teachers from openly talking about the difficulties they face. Acknowledging that a web-supported CoP, like ILF, brings together a larger number of teacher and transcends time and space problems, Barab et al. (2004) suggest that face to face contacts can facilitate the growth of such a community. Developing and maintaining a community is not straight forward even in face to face settings. In a web-supported CoP, technology is not a facilitator by nature, it adds to the complexity of community dynamics (Kling & Courtright, 2004).
6- Diversity/coherence: A CoP benefits from diversity among members because without diversity, it is unlikely that any change can take place after the community is well established (Lave & Wenger, 1991). Nevertheless, in the first stages of developing a web-supported CoP, developers tend to start with a homogenous group to minimize the initial problems that root from disagreements. ILF has been no exception with this regard. The design team started with a handful of like minded teachers and limited its focus to mat and science. In the following year ILF researchers noticed the total absence of female teachers as contributing members (Barab et al., 2004). In addition to lack of diversity, there is the danger of community members assuming this situation as the norm and thus non-negotiable. Barab et. al. (2004) found this to be the case in ILF, where the classroom discussions received little critical feedback. Those who had shared videos of their classrooms were considered experts that few people wanted to challenge them. Again, Barab et al. (2004) identify Inquiry Circles as a place for diverse groups of teachers to collaborate with each other within ILF.

The four sets of dualities identified by Wenger (1998) and the two sets added by Barab et. al. (2004), demonstrate factors that play important roles in the development and sustainability of a web-supported community. It is important to note that none of these dualities can be eliminated. Instead they should be considered and balanced from the initial stages of community development. Barab et al. ‘s (2004) discussion about dualities in ILF involves a great deal of consideration for fostering social interactions within an online community, a notion that was recognized before as well (Barab et al., 2001).

To this end, Inquiry Circles have been used to solve multiple problems, but Barab et. al. (2004) undermine their previous findings that discussions in Inquiry Circles seldom, if at all, extends to other parts of ILF (Barab et al., 2001).
Summing up the ILF

Up to this point, ILF research team used the term community without actually providing any empirical evidence that ILF shows characteristics of a community. Consistent with the arguments of Barab et al. (2004) about ILF’s need for strategies to foster critical discussions among teachers, Kling and Courtright (2004) warn that merely calling a group of people who are working together a community will not facilitate trust building and does not lead to reciprocal communication.

In search for such support strategies, Kilng and Courtright (2004) provide a brief overview of ILF members’ activities in the years 2001 and 2002. Within two years ILF’s members grew from 14 in-service teachers to 300 in-service and 430 pre-service teachers. The number of ILF Classrooms, in the mean time, increased from 14 to 21. But the fact that 58 out of 300 in-service teachers had posted more than five messages showed that only a minority of teachers were actively using the ILF. Active participation rate for pre-service teachers was higher because they were required to post certain number of messages according to their course requirements.

Content of posted messages also raised concern. There was little critical discussion happening in different parts of ILF. Instead, teachers asked for clarification, reflected their opinion about topic of discussion without connecting them to a collective interest of the group (Kling & Courtright, 2004).

Kling and Courtright (2004) concluded that the only evident characteristic of a community among ILF teachers is their interest in inquiry-based practice. Teachers had subverted ILF’s vision for transforming teaching practice and turned it into a resource center for meeting their day to day needs, which showed a poor balance between designed/emergent dualities (Barab et al., 2004). Barab et al. (2001) explained about strategies that were developed over time to
increase teachers’ participation in ILF. Kilng and Courtright (2004) also emphasis that ILF needs to employ more face to face and online structures to promote trust building and group identity among its members, essential elements for community building (Kling & Courtright, 2004).

Encouraging teachers who are interested in working on a specific topic to use ILF Inquiry Circles is again emphasized. One way to attract teachers to Inquiry Circles is to make more face to face connections with teachers in schools and professional development providers and inform them about ILF’s collaborative facilities. The promise of this approach is less demanding on behalf of ILF design and research team to grow the community (Barab et al., 2001; Barab, Kling, & Gray, 2004; Kling & Courtright, 2004), however as mentioned before, the ILF team does not provide any evidence that these small communities of practice have been successfully formed and that they contribute to the growth of ILF as a community of educators committed to promote inquiry based practice.

2.5.3 New Teacher Support E-Mentoring Project (NTSEMP)

The third web-supported professional community that I have studied is the New Teacher Support E-Mentoring Project (NTSEMP). Unlike TI and ILF, I could find few papers about this community and unfortunately all of them are narratives that explain only some parts of the project in a general language. However, I decided to include NTSEMP in this chapter because it has a specific focus both in terms of its objectives and in terms of people who benefit from it.

The Novice Teacher Support Project (NTSP) (http://ntsp.ed.uiuc.edu/) is a program covering urban and rural schools in a five-county region established in East Central Illinois in which experienced teachers mentor new teachers in their first three years of teaching. Targeting new teachers, this project provides resources and opportunities for professional connection and development through a partnership between the University of Urbana-Champaign and regional
offices of education. The project receives funds from the University of Urbana-Champaign, federal government, and regional offices of education. One purpose of the project is to assist new teachers to meet Illinois Professional Teaching Standards (Klecka, Clift, & Thomas, 2002).

**Technological infrastructure of NTSEMP**

In 1999 a password protected electronic conferencing system was added to NTSP in response to new teachers' uttered need for connecting with more experienced colleagues who shared the same interests or taught in the same grade level. It was expected that, using the online conferencing, teachers would start ongoing professional dialogue with each other (Klecka et al., 2002). Prior to making the decision to add an online conferring tool to the project, NTSP had a resource website.

Informed by previous research showing the effect of access to technology and perceptions of technology use, NTSEMP research team was cautious about human factors when setting up the infrastructure. They took into consideration that teachers may not have access to cutting edge technology, may have different levels of technology competency, and that they may have to figure out their technological problems themselves. (2002)

NTSEMP researchers realized that decisions making about the technological infrastructure of the web-supported community is a collaborative effort between researchers and technology experts. The NTSPEMP team consists of a programmer, a web-based data base manager, a system administrator to troubleshoot the web server, a faculty member who mediates between university and offices of education, an educator who moderated the web-based bulletin board and communicates with e-mentors and e-mentees, and a research assistant who collects data to be used in the next iterations of the initiative (Klecka et al., 2002; Klecka, Clift, & Cheng, 2005).
One problem the academic members of the teams faced, was lack of common language to communicate their needs with technology experts (Klecka et al., 2002).

**Review of studies conducted on NTSEMP**

In an action research report written to inform other institutions who are interested in using discussion forums to set up telementoring opportunities, Klecka, Clift, and Thomas (2002) explain the successes and challenges they faced in their first attempt to add a bulletin board to the NTSP with the goal that it provides a “sustainable, cost-reasonable e-mentoring system for beginning and experienced teachers” (p.30).

Based on the work of similar web-supported communities, the research team expected to face challenges in introducing the online conferencing system. For one thing they could not find similar efforts that had lasted for long (Klecka et al., 2002).

Another challenge was building an infrastructure for the online conferencing system which required appropriate software, hardware, human expertise, and last but not the least flexible funding. The NTSEMP team found that extensive funding is needed just to set up the infrastructure of the online component. Lack of funding may result in termination of the initiatives that attempt to develop online communications among teachers (Klecka et al., 2002).

In their action research report, Klecka, Clift, and Thomas (2002) talk about the NTSEMP research team’s first attempt to collect data on the project in order to learn how this web-based structure facilitates, or fails to facilitate, communication between new teachers and their experienced mentors. Participants for the first year were 73 practicing teachers who had graduated from the University of Illinois at Urbana-Champaign College of Education, as e-mentors, and 41 new teachers in the NTSP, as e-mentees. They were mostly from different
schools and did not know each other face to face. Within the online conferencing, these participants were identified by their last name (Klecka et al., 2002).

There was no participation requirement and participants were just asked to use the online conferencing system and provide feedback. For the first year, a list of discussion topics corresponding to participants’ subject area and grade level was created in the online conferencing system by a moderator. An “urgent” discussion topic was also added and it was monitored on a daily basis (Klecka et al., 2002; Klecka et al., 2005).

Data collection methods included open-ended surveys, group interviews, personal email communications, and face to face chats with participants.

E-mentors and e-mentees received separate training sessions to use the discussion forum and posted some practice messages, which for most participants, were the only messages they posted through one year of participation in the study.

Findings of the first year revealed that e-mentor’s perception of their role as “answering the questions asked by e-mentees” prevented them from initiating new discussions. The research team decided that one possible solution to this problem is to pay more attention to social aspects of online conferencing e.g., by providing and publicizing participation opportunities to give participants some clue about what they can do online (Klecka et al., 2002).

To overcome the above problems, NTSP research team defined roles and participation requirements for e-mentors and e-mentees, made connection between the online conferencing and a weekly face to face professional development activity, and included instructors of that weekly activity and educational consultants in the online conferencing activities. One month into the second year of their study, the research team recognized that changes had positively affected participation in the online conferencing (Klecka et al., 2002).
Based on their experience in the first year, the NTSEMP research team warns those who attempt to initiate similar online discussions about five issues:

- **Absence of an organizing team with various technological and academic expertise:** considering the technological choices that affect teacher’s experience with the initiative, early in the development of the initiative, the NTSEMP team realized that they do not have the necessary technological expertise and knowledge (2002). They recommend that similar efforts think of gathering a diverse technological and academic team (Klecka, Clift, & Cheng, 2005) to make correct choices in the technology to be used.

- **Losing the balance between the existing face to face community and the web-supported community:** face to face communications and interactions can set the stage for web-supported communication and one must be sensitive about that (Klecka et al., 2002).

- **Lack of requirements for reciprocity:** with no requirements for participation in the online conferencing and answering messages, questions will remain unanswered disappointing the person who submitted them. Consequently, participants lose their interest in investing more time using the online conferencing (Klecka et al., 2002).

- **Misconception of participants in the online conferencing about their participation pattern:** due to lack of experience with online conferencing, participants may not pursue alternative forms of participation. They might limit themselves to either asking questions or providing answer to others’ questions. Providing suitable training would help participants to be more flexible in the online conferencing environment (Klecka et al., 2002).
• *Failure to provide a safe and secure environment for participants:* access of certain
individuals to online conferencing environment may jeopardize the safety of that
environment in the sense that other participants will not feel secure to share their
issues. Decisions on who can have access to the online conferencing system should be
made early in the innovation (Klecka et al., 2002).

Later, Klacka (2003), an online moderator and a member of NTSEMP research teams,
ponders on the last issues arguing that trust, safety, and confidence profoundly interfere with the
development and nature of participation in online discussions. In this study, she adds her journal
entries to the pool of data to discuss how these three constructs of trust, safety, and confidence
interfere with initiation and sustainability of online discussions among participants in NTSEMP
(Klecka, 2003).

Having confidence in the online conferencing environment is a precondition to participation
and whenever compromised, may result in participants’ abandoning the online conferencing
(Klecka, 2003).

Participants’ feeling of safety in the electronic conferencing environment is the number one
factor in sustaining online discussions. Safety of the medium applies to the online conferencing
environment being non-evaluative and non-threatening so that teachers can share their concerns
without worrying about misjudgment and aggressive feedback. In the NTSEMP this aspect of
safety is secured by keeping the online bulletin board limited to practicing and new teachers.
With no person in an administrative position in the online bulletin board, participants do not have
to worry about the impression their online discussions might have on their future profession
(Klecka, 2003).
Yet in NTSEMP, participants themselves jeopardized the safety of the online environment. As an example, Klecka (2003) indicates how a mentor shared her username and password with her students with the good intention that the students get a sense of how teachers develop their professional skills. Therefore, safety of the online bulletin boards relies on sound regulations and participants’ self awareness and commitment to those regulations (Klecka, 2003).

Development of trust in online environment where participants do not necessarily know each other is a critical issue. Based on the data collected in the first and second year of the research, Klecka (2003) realized that teachers find it difficult to trust someone they have never seen face to face. E-mentees, in particular, lost their trust in online discussions when the questions they had posted in the online bulletin board were left unanswered for a long time. Moreover, some participants pointed out in cases when they receive an answer, they doubt the quality of response they receive (Klecka, 2003).

Klecka (2003) also indicated that the degree of anonymity affects the extent to which these three constructs impact online discussions. In the online contexts, anonymity contributes to participants’ feeling of safety. According to her, partial anonymity in the NTSP Electronic Mentoring facilitated e-mentees’ participation in the online bulletin board because they felt safer to share their questions with people from outside their schools (Klecka, 2003). Her finding is confirmed when those e-metees who teach in the same school as another e-mentee or an e-mentor were reluctant to share their problems online. To solve this problem, the NTSEMP research and design team decided to use a shared alias so that those participants who felt unsafe sharing a problem would use it anonymously. Although the idea looked smart, Klecka (2003) and Klecka, Clift, and Cheng (2005) did not find a single use of that alias. Like other web-
supported communities, Klecka (2003) comments it takes time for NTSEMPS members to explore all their possibilities.

The findings about effect of safety, trust, confidence and anonymity in the flow of online discussions are later confirmed by Klecka, Clift, and Thomas (2005) in their report that includes three expansion sites in addition to NTSEMPS original site. There is more to these four factors however, because group dynamics and politics vary from one context to another, interfering with the way these four factors affect participation in online discussions. Along with Klecka (2003), Klecka, Clift, and Cheng (2005), I think similar initiatives should consider the interplay of these four factors within their own contexts.

In their next paper, based on data collected on teachers’ perception of usefulness of web-based bulletin boards as a means for supporting new teachers, the NTSEMPS research team critically analyses the affordance of web-based bulletin boards in supporting ongoing TPD. Data for this paper has been collected in NTSEMPS for four years and in three other universities for one year. The paper does not provide detailed account of the participants and data collection methods, mentioning only that the participants in the other three sites were student-teachers in various fields, rather than new teachers, and experienced teachers (Klecka et al., 2005). I assume that the other three sites, too, followed NTSEMPS’s data collection protocol.

Klecka, Clift, and Cheng (2005) identify participants’ positive perceptions of their participation in web-based bulletin boards in their feeling of becoming a part of a professional community. Participants benefited from the perceived community in three ways:

- Participants, new teachers in particular, reported that their feeling of isolation had been reduced and that they learned indirectly through reading what has been posted on the bulletin board by teachers (Klecka, Clift, Cheng, 2005);
• Access to multiple perspectives from teachers who are in other schools and hold different points of view freed participants from limitations of one context. Also new teachers felt safer to share their problems with someone out of their school (Klecka, Clift, Cheng, 2005). Although, from another point of view, being from different contexts inhibits teachers from providing hints or advice that are applicable to other contexts (Klecka et al., 2005); and

• Keeping in touch with each other between face to face meetings (Klecka, Clift, Cheng, 2005).

Participants also talked about multiple conditions that affect, either inhibit or enhance, their participation in the web-based bulletin board (Klecka, Clift, Cheng, 2005). The impacting factors included:

• Participants’ access to proper technology for connecting to the bulletin board at work or at home. Lack of access or lack of compatible technology results in non-participation (Klecka, Clift, Cheng, 2005);

• Time needed for logging on the bulletin board, reading through posted messages, and entering discussions, could be an inhibitor because teachers had to make room for that time in their daily schedules. Giving higher priority to the bulletin board would reduce this obstacle (Klecka, Clift, Cheng, 2005);

• Not having a reason for participation also justified teachers’ inadequate use of bulletin board (Klecka, Clift, Cheng, 2005);

• Klecka, Clift, and Cheng (2005) make a good point by saying that external incentives would encourage teachers only to get involved in discussions. Sustained participation needs internal motivation and a real need that is met only through participating in
online discussions. However, initial incentives or even requirements are useful because without them, participants would never take the time to give the bulletin board a try (Klecka, Clift, Cheng, 2005); and

- Commitment to visible participation, adding something to the discussions rather than lurking, can also either liven up online discussions or lead them to a silence. When participants did not see new messages added to the bulletin board or their questions remained unanswered, they were discouraged from further participation (Klecka, Clift, Cheng, 2005).

In terms of significance of NTS E-mentoring Project, some of the new teachers in this study indicated that with better support in their own schools they would not need to count on the bulletin board (Klecka, Clift, Cheng, 2005). Here the conflict between academics and teachers in terms of perceived needs comes up again. NTS E-mentoring Project research team believes that new teachers need to have connections with a wider population of colleagues while new teachers themselves do not feel the need for such communication (Klecka, Clift, Cheng, 2005).

For their future work, the NTS E-mentoring Project research team recognized the need for analyzing contents of the online discussions to learn more about what is relevant to new teachers.

**Summing up on NTSEMP**

Papers about NTSEMP lack the rigor of research papers and it is hard to judge the significance of their findings without knowing much about how data was collected and analyzed. NTSEMP is a local initiative limited in scope and vision. However, observations of the research team in their four years of working with this initiative, offer lessons for those who are interested in similar initiatives. Among these lessons is being attentive to teachers needs because if teachers
do not feel the need for or do not foresee the advantages of using web-supported communities, they will not invest in them.

2.6 Conclusion

In this chapter I declared my stance toward learning in communities of practice and based on the research on TPD concluded that social structures like communities of practice can be enabling conditions for teacher's development and learning. I also reviewed previous efforts in using online technologies to support TPD with a community approach. Finally, I reviewed three active web-supported communities that are different in terms of their goal, vision, target audience, scope, and focus. Yet, besides their differences, they share many common points in terms of their design issues and experience of their members.

Previous research on web-supported CoPs intended for TPD is based on perceived benefits of using online technologies in TPD and identifies factors that either encourage or discourage active participation. It also reveals a series of challenges these communities face at different stages of development. Each of the three web-supported communities discussed here together with the review of older initiatives, adds some pieces to the puzzle of how to develop and maintain a web-supported CoP that facilitates TPD. Yet, the picture still lacks many pieces. In the closing part of this chapter, I will identify the gaps in the existing literature and explain how my research contributes to the field of web-supported TPD CoPs.

I begin by briefly comparing TI, ILF and NTSEMP to demonstrate their commonalities and differences. This comparison justifies my choice by showing that each of these communities has unique characteristics and contributes to the field in its own way.

The three communities of TI, ILF and NTSEMP were all initiated by academics rather than teachers from the k-12 education sector. They all follow a team approach to building and
maintaining the web-supported community, although they have different approaches. ILF includes teachers in their team, while TI and NTSEMP consist of researcher and technologists. Other differences of these three web-supported CoPs are their:

- **Target audience**: TI and ILF have a more diverse target audience compared to NTSEMP which is dedicated to a specific region;

- **Focus**: TI accommodates all topic that are related to education while ILF focuses on inquiry-based teaching and learning. NTSEMP, provides e-mentoring services in different grade levels and subject matters; and

- **Structures for participation**: TI and ILF employ various means of communication to maximize participants’ access to technology and give the opportunity to find their favorite medium. NTSEMP, chose to only use a bulletin board because it seemed sufficient for its purpose.

Based on their findings during longitudinal studies and consistent with previous research (Barnett, 2002; Zhao & Rop, 2001), TI, ILF and NTSEMP identified a collection of factors that encourage or discourage active participation. The encouraging factors for participation included, but are not limited to, opportunities to increase one’s professional network, reduced isolation, and offering flexible time for learning. The list of discouraging factors is longer, showing that future research has a lot to do to pave the way for web-supported communities to become effective and sustainable.

Among the discouraging or impeding factors are teachers’ difficulty with making time for participation in those communities, complexity of the interface, lack of access to technology, and lack of a culture of reflection among teacher.
Each of the studied web-supported communities used strategies to strengthen the encouraging factors and eliminate the discouraging ones. However, there remained unsolved or under-solved issues that call for further research. The above cases of web-supported TPD CoPs offer guidelines for future studies either explicitly or implicitly.

Lack of qualitative measures of teachers’ participation in web-supported communities is the biggest gap in the current literature. Some communities like TI and ILF offer limited quantitative data but none of them gives detailed and in-depth evidence on whether participants recognize themselves as members of community and whether the community has positive effect on their professional development.

The next issue is how the partnership between academics and the k-12 education system works in initiating, developing, and maintaining a web-supported component to the existing system. When the idea of adding an online component to teachers’ existing communities comes from outside, teachers attend to it with decreased feeling of ownership. This might impede teachers’ participation, as it is implied in TI. But the issue of how eager is the k-12 education community to take the leadership of the online component introduced to their system is not studied in depth.

Another unsolved issue is the technological design considerations of the web-supported community. The “who should decide about the combination of online technologies in a web-supported CoP” is not answered properly. What’s more, there is a need for research on the effect of ease of use, on the part of technological infrastructure of the web-supported community, and on the level of participation.

Some research looks for the relation between lack of teachers’ technological competency and knowledge of the medium and their success or failure in engaging in reflective online
discussions. But there is no hint on what level of knowledge of the medium would be sufficient for teachers to be able to communicate with it.

The nature of online discussions is another issue that calls for further research to shed light on how teachers initiate a discussion and what is the content of their discourse. Results of research on this issue will assist developers of web-supported communities to see if teachers are using the context in accordance with the purpose of the community or are they subverting the web-supported community for their own purposes. Moreover, in the case of TI, ILF and NTSEMP, both researchers and participating teachers showed concern about the quality of online communications. There is need for further study on how teachers start online communications and the substance of their communications.

Rarely a web-supported CoP develops because a group of teachers have felt a need for it. As with TI, ILF and NTSEMP, the initiative usually comes from outside with little input from teachers’ face to face community. It is important to find out what kind of web-supported community will talk to teachers needs. Havelock (2004), too, warns against neglecting the effect of teachers’ face to face communities when attempting to develop web-supported TPD communities. Moreover, research is needed to find out how perceived needs for interaction of online technologies would affect teachers’ participation in the activities of the web-supported community.

With the above consideration in mind, my study seeks understanding on how VSB Literacy teachers perceive of and use online technologies in their professional activities. I also search for factors that affect this group of teachers’ participation in the online component of VSB Literacy Project. Lastly, I attend to the nature and content of their online communications. The following chapter explains how the study was designed and conducted.
CHAPTER III: Methodology

A researcher's choice of study design is dictated by the phenomenon under study, the nature of questions asked, and researcher's orientation toward nature of knowledge. Also, it is a researcher's responsibility to find a fit among research questions, various research designs, and her ability and skills in conducting that kind of research design (S. B. Merriam, 1998). Yin (2002), recommends researchers to consider three conditions when deciding what research design to use. The conditions are the type of the research question, the degree of researcher's control over the processes under study, and whether research is focused on a contemporary phenomenon or a historical one.

In the field of education, Merriam (1988) emphasizes the advantage of using qualitative research designs to gain insights into processes under study from the point of view of participants in study. Results of such qualitative research can in turn improve practice.

Denzin and Lincoln (1994) provide a generic definition for qualitative research as "multimethod in focus, involving an interpretive, naturalistic approach to its subject matter" (page 2). In other words, qualitative research takes an inductive approach to understanding the meaning of a phenomenon from point of the view of people who are involved. It takes place in the natural settings of that phenomenon with minimal or no interference on the part of the researcher (Denzin & Lincoln, 1994; S. B. Merriam, 1998). In qualitative studies, the researcher uses a variety of data collection and observation methods and in the end provides a rich description of the process (S. B. Merriam, 1998; Stake, 1995). Moreover, qualitative study design is flexible and allows researcher to take alternative directions in gathering and analyzing data when the conditions of the study change (S. B. Merriam, 1998).
Several research designs, like case study, fall into the category of qualitative study. In this section I explain the reasons for my choice of a qualitative case study design (S. B. Merriam, 1998; Stake, 1994; Stake, 1995; Yin, 2002) for studying the e-VSB Literacy Project.

3.1. Case study design

Emphasizing the qualitative orientation of case studies, Merriam (1998) describes case study design as an intensive description, analysis, and interpretation of a single unit—such as a program, intervention, group, etc. She (1998) further describes case studies as being “particularistic, descriptive, and heuristic” (page 34) which can result in developing theory in the field of study or improving practice. By taking case study approach, a researcher will be able to “uncover the interplay among significant factors” that characterize the case (Merriam 1995 p. 108, 1998 p.). Based on the intent of the study, Merriam (1998) points out interpretive case studies that go beyond rich description of the case and its processes during the research period and uses inductive analysis to categorize data to demonstrate the relation between various factors in the case or to reflect on existing theoretical assumptions based on the findings from developed categories.

Yin (2002) argues that definitions of case study are limited because they use examples of studies done with case study method to further define it, and that case study has been confused with ethnography or participant observation. Proposing a technical definition to address the above mentioned flaws, Yin (2002) relates the choice of using cases study design to a researcher’s intention of considering contextual conditions that are pertinent to the phenomenon of study. He, then, identifies case study as a comprehensive research strategy that, in addition to the study design, embraces data collection and data analysis approaches (Yin, 2002).
Although Stake (1994,1995), Merriam (1995,1998), and Yin (2002) propose different interpretations of what a case study design is, they all emphasize the focus of this design being the interest of researcher to get in-depth and rigorous understanding of the “case”. Citing Smith (1987), Stake (1994, 1995) and Merriam (1995, 1998) recognize the case as a “bounded system”; a unique, identifiable entity. Researchers, however, are interested in cases for different reasons. Merriam (1995, 1998) and Yin (2002) identify cases studies where a single case is taken into account and case studies with multiple cases that seek understanding of significant factors across cases. Stake (1994, 1995) recognizes three kinds of cases with regards to what the researcher wants to learn from them: intrinsic, instrumental, and collective. Intrinsic cases are studied because the researcher is interested in learning specifically about them and not a general problem (Stake, 1994; Stake, 1995). On the other hand, sometimes researchers choose to study a case to develop understanding about other similar cases or about a general issue, an instrumental case (Stake, 1994; Stake, 1995), or study multiple cases to learn about a common issue, which would be a collective case (Stake, 1995).

Summing up, qualitative case study design is especially useful in the education fields where there is a lack of research and theory (Merriam, 1995, 1998) because it provides data and suggests possible hypotheses for future research. Moreover, it offers key factors of the studied phenomenon. Providing a rich description and interpretation of the phenomenon under study (Merriam, 1995, 1998), this design is suitable for studying innovations in education to facilitate future decision making with regards to that innovation.

3.2 Selecting a research design

Researcher’s choice of a study design is based on what she wants to know (Merriam, 1998). Case studies, Stake (1994) suggests, are concerned with what the researcher can learn about the
case. Merriam (2002) recommends using case study design to develop intensive descriptions for the areas that lack rigorous research. Case studies will help develop more understanding in those fields and also will guide further research (S. B. Merriam, 1988). In a later work, Merriam’s (1998) writes: "a case study design is employed to gain in-depth understanding of the situation and meaning for those involved. The interest is on process rather than outcome, in discovery rather than confirmation "(page 19). Here she identifies two reasons why a researcher would use a case study: having a special interest in a case and the desire to learn about the processes involved rather than the product. From another point of the view, Yin (2002) adds case study design is suitable for answering explanatory research questions that deal with the “how” and “why” a case behaves the way it does in the course of time. As for case study researchers, Yin (2002) argues, they do not have control over what happens.

My interest in e-VSB Literacy was to develop an in-depth understanding of how VSB Literacy Project mentors and coordinators use online resources and communication tools in their work. I also intended to identify how various factors would affect the communication process of these mentors and coordinators as they experienced the technology. Considering my research questions that require description, explanation, and interpretations of how a subset of mentors and coordinators in the VSB Literacy Project experience using a resource website and online communication technologies to extend their professional communications beyond face to face meetings, an interpretive case study is an appropriate design choice. To this end, the e-VSB Literacy Project is defined as an intrinsic case (Stake, 1994; Stake, 1995).

3.3 Study site

Prior to this study, the VSB Literacy Project did not have an online component to be used for professional development purposes for teachers, coordinators, and mentors. I started my work
on this research in May 2005, although the data collection did not start until September 2005. The project team—my supervisor, one of my committee members and a Literacy mentor who was co-investigator—discussed the possibility of Vancouver School Board technology department hosting the study's website. We thought that teachers in the Literacy Project would identify with the website better if it was placed under VSB website. However, after negotiation with VSB technology department, we decided to ask UBC Faculty of Education to give us a space on their web server for one year.

From the outset, I knew that the e-VSB Literacy would have two major parts: a resource part and an online communication component. During that period, with the help and advice of the co-investigator, a volunteer Literacy mentor, I developed a simple website for resources that contained sample lesson plans, book introductions, classroom strategies, related links, and project contact information. We shared the prototype website in a VSB Literacy mentors meeting and made some changes according to the feedback we received. From that time on, I have added and deleted some parts of the website. Until December 2005 the website could be accessed at http://educ.ubc.ca/research/vsbliteracy/. Then the project team decided to buy a domain name for the website to give it an independent identity, which makes it easier to share the website URL with Literacy teachers; the former URL was long and hard to remember. The current URL is www.vsbliteracy.org and is purchased for three years.

Meanwhile we, the project team, searched for a bulletin board that was free, or would cost very little, and was easy to use. Our quest ended up in the Department of Curriculum Studies where the department technicians offered us to use their copy of PHPBB (for more information see http://www.phpbb.com/). I provided a link from the website to the bulletin board so that it is accessible within the e-VSB Literacy and does not require research participants to memorize
another long URL. For this year, only research participants had access to the bulletin board. Before introducing the bulletin board to participants the research team decided to make five forum topics in it; Grades k-3 discussions, Grades 4-7 discussions, Grades 8-12 discussions, Teachers' Lounge, and Practice room. Again for this research with the participants being coordinators and mentors of the Early Literacy Project, only the "Grades k-3 discussions" was active. After entering the forum, participants could read others' postings, reply to them, or make a new discussion topic. I should point out that the website is open to public but the bulletin board is password protected and for this study, only study participants could access it.

My role with regards to the website and bulleting board was updating and maintaining the website, assisting study participants with their technical problems, and issuing usernames and passwords for the bulletin board. Initially, I introduced myself to VSB Literacy mentors in their meetings in May 2005 and gave them my email address so that they could forward me materials for the website. Later, in September 2005 we decided to add an email form to the website so that any person who had questions or suggestions about the e-VSB Literacy could forward them from the website. For this study, the focus of the website and the bulletin board was on the Early Literacy.

At the time of this writing the website consists of the following parts:

- About Literacy: contains information about the history of VSB Literacy Project, list of participating schools, forms for schools who wish to join the project, information for parents, and annual reports;
- Classroom resources: divided into three sections- early, mid, and late Literacy-, this section contains reading and writing lesson plans, assessment criteria, related articles, and
classroom strategies for the respective grade level. In addition to textual documents, this section also contains movie clips;

- Professional resources: in this section Literacy teachers can access the VSB Literacy Project library titles, see suggested books and resources, and order Literacy materials online;

- Newsletter: it was planned that the newsletter would cover current issues and be updated every month. That happened only for the first two months mostly because no one in the VSB Literacy Project was responsible for it;

- Calendar of events: as mentioned in the introduction part, VSB literacy mentors and coordinators have regular meetings during school year. They could check the date, time, and place of meetings in this part of website;

- Related links: as the name suggests, this section contains links to related websites. The links are not annotated and do not provide further information of what teachers would find in them;

- Contact us: Besides accessing Literacy mentors and consultants’ contact information, visitors of the website can submit their questions, comments, or suggestions through a message form in the Contact Us page. I checked the mail box everyday and forwarded received messages to someone that could provide a reply; and

- Online forum: using this link, registered members could enter the bulletin board described earlier.
3.4 Participants

Participants of this research were VSB Literacy consultant, mentors, and coordinators. I purposefully (Merriam, 1998) chose the participants because I assumed that mentors, being more experienced in the project, and coordinators, being responsible to facilitate Literacy project in their schools, could provide valuable insight in the usefulness of online technologies to facilitate their professional responsibilities. VSB literacy consultant and mentors work full time or one day a week at VSB and are thus more accessible. Another reason for focusing on mentors and coordinators was their experience with the VSB Literacy project. Moreover, both mentors and coordinators are classroom teachers, so I can rely on their connection with the project not only at an administrative level, but from a very practical classroom perspective.

Prior to asking for participation, I had demonstrated the draft Literacy website in a VSB Literacy steering committee meeting. So, VSB Literacy team already knew about the research initiative. In September 2005 I took part in a joint VSB Literacy mentors’ VSB Learning Services consultants meeting and talked to them about the research, showing them the more complete website and discussion forum, and its participation requirements and asked them to consider volunteering as research participants. In that session, they also had a hands-on experience with the discussion forum. In that session, the Literacy consultant and five mentors volunteered to participate in the project and signed consent forms (Appendix B). They were told that participation in the project involved weekly use of the bulletin board and two interviews, one in the beginning and one toward the end of the study. One mentor, however, did not respond the call for interview and another mentor quit the study.

My meeting with coordinators was postponed to the last days of November 2005 due to a province-wide industrial strike by BC teachers. Again, I explained about the research, showed
them the website and told them about the bulletin board. At the end of my presentation I distributed a form so that any one who was interested in participating in the study could give me their contract information. Seventeen coordinators showed interest. I sent them all a description of study and again asked them to consider participating in the study. However, only three of them signed the consent form in our second meeting in January 2006, one of whom did not reply to my request for interview. Table 3.1 summarizes participants’ professional information.

**Table 3.1 Summary of participants’ professional information**

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Years of teaching experience</th>
<th>Years with the VSB Literacy Project</th>
<th>Responsibility in the VSB Literacy Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chica</td>
<td>9</td>
<td>6</td>
<td>Mentor</td>
</tr>
<tr>
<td>Jen</td>
<td>6</td>
<td>Less than one year</td>
<td>Coordinator</td>
</tr>
<tr>
<td>Pam</td>
<td>6</td>
<td>2</td>
<td>Coordinator</td>
</tr>
<tr>
<td>Rachel</td>
<td>27</td>
<td>7</td>
<td>Literacy Consultant</td>
</tr>
<tr>
<td>Lisa</td>
<td>N/A</td>
<td>N/A</td>
<td>Mentor</td>
</tr>
<tr>
<td>Theresa</td>
<td>22</td>
<td>6</td>
<td>Mentor</td>
</tr>
<tr>
<td>Wendy</td>
<td>12</td>
<td>6</td>
<td>Mentor</td>
</tr>
</tbody>
</table>

3.5 Study time line

The following items constituted landmarks for the study:

- *May 2005 to September 2005*: preparing the e-VSB Literacy website and bulletin board and receiving approval from Behavioral Research Ethics Board of the University of British Columbia.
• September 13th 2005: meeting with Early VSB Literacy consultants and mentors, explaining about the study, and asking them to volunteer for the study. Eight Literacy mentors volunteered.

• September 13th 2005 to April 30th 2006: weekly observation of the bulletin board.

• October 4th 2005: contacting participants to schedule the first interview.

• October 7th 2005 to October 23rd 2005: industrial job action started. I refrained from contacting participants in this time period because they could not participate in any research initiative.

• November 2005: conducting first set of interviews with mentors.

• November 22nd 2005: introductory meeting with coordinators and asking them to participate in the study.

• January 17th 2006: one to one talk with 10 of the 17 coordinators who had shown interest in the study. Two coordinators signed the consent form.

• January 30th 2006: Meeting with another coordinator who was interested to join the project at Britannia Secondary during District Literacy Day. She signed the consent form and asked for an email, instead of face to face, interview.

• January 30th 2006: sending interview questions to the third volunteer coordinator.

• February 4th and February 10th 2006: interview with two coordinators.

• March 27th 2006: sending a letter to participants asking them to schedule a time for a second interview in the second half of April 2006 (Appendix C).

• April 19th 2006 to May 2nd 2006: second set of interviews.

• May 2006: comprehensive data analysis and writing the report.
3.6 Methods

In a case study design researchers can use a variety of data collection methods among which interviews, observation, documents are more popular (Stake, 1995; Merriam, 1998). Yin (2002) provides a more detailed list that contains “documentation, archival records, interviews, direct observations, participant observation and physical artifacts (page 85).

While there are multiple methods for gathering data the selected case directs the selection of data sources and methods of data collection (Stake, 1995; Merriam, 1998). In this research, I was looking at how a subset of VSB Literacy teachers used the e-VSB Literacy in extending their professional development and communications. Data sources for this research included face to face interview data, contents of the bulletin board, and my journal entries form September 2005 to May 2006. Below I describe each data source in detail.

3.6.1 Interviews

Interviews are one of the most important methods of collecting data in case study research because they allow researchers to gain insights into participants’ points of the view (Stake, 1995; Merriam, 1998). I decided to conduct two face to face semi structured interviews (Merriam, 1998) with the participants, one at the beginning and the other towards the end of the study. I asked my fellow graduate students at the University of British Columbia to assist me with piloting both interviews. Also, to make sure that I had a full record of interviews, I tape recorded them, with consent of the participants, and then transcribed them verbatim.

Unfortunately, for the first set of interviews the Literacy mentors and consultant could not be conducted until November 2005 due to the industrial job action during which participants refrained from taking part in any research. After the job action I contacted participants again via
email and asked them to specify a time for an interview. Only two of the participants replied to my request. Knowing that they were very busy and trying to catch up the time they lost during the job action, I decided to meet other participants in person and encourage them to consider the interview. This way five other participants agreed to be interviewed. As for coordinators, who joined the research in January 2006, two of them agreed to have a face to face interview. The last coordinator preferred an email interview, so I emailed her a list of generic questions I had asked the previous interview participants. However, she did not respond to my email.

In the first interview I gathered demographic information about the participants' teaching background and their experience with VSB Literacy Project, their interpretation about how VSB Literacy had effected their teaching and students' learning, their attitude toward technology and its use in teaching and professional development, their motivation to volunteer for the research, their expectations of the e-VSB Literacy, and their prediction about how they would use the e-VSB in the coming months (Appendix D).

At the time of the first interview I told each participant that they might be asked to have a second interview some time in April. I decided for the second set of interviews to select among participants based on their participation in the bulletin board. In her first interview one participant told me that she would not contribute to the discussion forum and in fact she never did. Another participant did not return my request for the interview. The other five showed interest in giving the bulletin board a try. Although one of them sent her message to the e-VSB Literacy email form instead of the bulletin board, I decided to limit the second interview to these five participants and probe their actual experience with the e-VSB Literacy.

I contacted the five research participants in late March 2006, this time by snail mail, telling them that I needed to have an interview with them for the second time and asked them to specify
a convenient time and place for an almost 20 to 30 minute chat. To thank them, I attached a $10 Starbucks coupon and I also enclosed stamped return envelopes. Three participants responded through snail mail, one emailed me, and the last set a time in a face to face meeting that we had. Results of the first interview guided me in design and the outline of the second interview. This time I asked them to reflect on their experience with the e-VSB Literacy (Appendix E). I also asked them about how they felt as a part of the VSB Literacy Project because I wanted to find out why they refer to VSB Literacy Project as a community. This way I would have a set of criteria to probe their attitude toward the e-VSB Literacy.

3.6.2 Contents of Bulletin Board

During the study, participants generated 17 discussion topics with an overall 50 postings in the “Grades k-3 Discussions” forum all of which I considered as data sources. I discarded ten messages because they were posted by participants who later quit the study. Examining the contents of the discussion forum served three purposes. First, the content revealed the nature of discussions and participation patterns of study participants. Second, it enabled me to assess if participants succeeded or failed in developing an online community based on the third characteristic of communities of practice that is developing a shared history. Third, I used participants’ contributions to the bulletin board to select a purposeful sample for the second interview.

Beside all the advantages, the PHPBB bulletin board has its own disadvantages. It did not keep track of how many times a participant had logged in and what they have done when they were logged on; i.e., which postings they have read and how much time they have spent in the bulletin board. To compensate the absence of this information I asked participants to describe their participation pattern in their second interview.
Because the number of postings in each discussion topic did not exceed five and could be followed easily on screen, I chose to copy and paste the content of each discussion topic in a Microsoft Word file which preserved the visual look of the contents.

3.6.3 Researcher's journal

Early in the study, I realized that my plans for the study would not proceed as I expected. I was constantly revising my approach to make contact with members of the VSB Literacy Project, participant selection criteria, and even the timeline of the study. To keep track of what I experienced and how I coped with the unexpected and surprising events, I followed the advice of my committee members and started an electronic journal.

The journal contains a full record of the research process and I have used some parts of it in the data source. It includes entries related to design considerations and design iterations of the website and bulletin board, reflections on my encounters with research participants, my gradual understanding of how things work in the VSB Literacy Project, and the adjustments I had to make during the research process. I used entries that deepened my understanding of what I initially expected to happen and those that helped me to make connections between what participants expressed in their interviews and what happened in reality. The journal shows how my understanding of and expectations from this study changed over time as I got closer to the end of study.

3.7 Data analysis

Data analysis in a qualitative research study is an inductive process of interpreting and making meaning of the collected body of data (Stake, 1995; Marshall & Rossman, 1999). Researchers should start analyzing as soon as the first piece of data is gathered so that they can
make further adjustments and refinements to data collection methods based on the initial interpretations (Merriam, 1998; Marshall& Rossman, 1999). This way the researcher makes sure that she is moving in the right direction and is directing data collection toward answering the research questions. Following Merriam (1998) and Marshall and Rossman (1999), I coded the data corpus, used constant comparative method to identify emergent categories, placed data into categories, and looked across the categories for answers to my research questions. Following is the detailed process of data analysis that I undertook for this study.

I decided, before starting the data collection, to keep an electronic record of data as much as possible and do most of my data collection management, and analysis using a computer. From the outset I made separate folders for each of group of data in my computer; interview-one, bulletin-board, interview-two, and journal. I decided to use the first letter of participants’ pseudonym, and first letter of my name, to code respective data in interviews, contents of bulletin board and journal entries.

After each interview, I transcribed it verbatim in Microsoft Word, added a header to it that contained name of the interviewee, place of interview, and date of interview. I named the file with a combination of participant’s pseudonym and date of the interview. As for my personal journal, I put each entry in a file and named them based on the date I had written the entry. I did not transfer contents of the discussion forum to my computer until the data collection period was over. The reason was that I could review the bulletin board online and if necessary take notes in my journal. After the data collection period was over. I saved contents of the discussion forum topic by topic in separate Microsoft Word files and named the files with its respective discussion topic. In each file I numbered every message.
After conducting the first interviews I transcribed them and read to make sure that the questions I asked would lead me to answer the research questions. I also wrote my initial reflection about what the interviews revealed. After the first set of interviews were done, transcribed and reflected on I started a preliminary analysis to draw out emergent categories and subcategories common in the interviews using constant comparative method as described by Merriam (1998). She explains that the researcher should go over one transcript, identify themes, categorize them, move to the next transcript, do the same process, compare and merge categories if necessary and move on to the next transcript.

To identify units of data that fell into each category I assigned a color to each category and highlighted data units in Microsoft Word. I selected quotations from the interview transcripts to back up the categories. That preliminary analysis helped me identify what I need to ask participants in the second set of interviews. Also I could partially answer my research questions. I repeated the same process for the second set of interviews and my journal.

I looked at the contents of the discussion forum to draw out commonalities and differences of themes, nature of responses, and patterns of participation. After reading through the postings several times, I used the constant comparative method to identify categories of data pertaining to the above mentioned issues.

The next chapter shows what emerged from the data and how the findings provide answers to the research questions.

### 3.8 Trustworthiness

Guba and Lincoln (1989) proposed a set of parallel criteria, trustworthiness, for judging the quality of naturalistic research. Trustworthiness criteria (Guba & Lincoln, 1989) include:
• Credibility: that deals with the match between constructed realities of participants and reconstruction of those realities by the researcher. Guba and Lincoln suggest six techniques for securing credibility of naturalistic inquiry: prolonged engagement, persistent observation, peer debriefing, negative case analysis, progressive subjectivity, and member checking.

I spent eight months in the study context and tried to build a trusting relationship with study participants. I also used as much of the opportunities I had, to observe participants and record my reflections in my journal. Besides, before each interview I made a journal entry of my anticipation about that interview and immediately after the interview I made another journal entry describing what I had observed. These journal entries helped me to understand how my background, prior expectations, and being technical facilitator in the study, impacted my role as a researcher. These reflections helped me to become more open-minded to how the study unfolded. During data collection and analysis I noticed pieces of data that did not fall into any of the categories or were not consistent with the rest of data corpus. I paid special attention to these pieces and avoided discarding them. I chose not to perform member checking because in all of our encounters participants emphasized on their busy schedule and I did not want to add a burden on them.

• Transferability: the degree to which results of a study can be generalized to similar settings determines transferability of that study. Guba and Lincoln (1989) advised qualitative researchers to provide a thick description of the context and settings of the study where the results were obtained. This comprehensive description then facilitates other researchers in making judgments on how results of a previous study could be transferred to their own settings. To meet these criteria, I’ve tried to be as detailed as
possible in describing the setting, participants, methods of data collection and analysis, and any event that affected the study process so that other researchers could judge if the results of this study are applicable to their setting.

Marshall and Rossman (1999) recommend triangulation of data sources to further increase generalizability of the qualitative research. I followed this guideline by collecting data from different sources with different methods: participant interview, participant online contributions, and personal journal and in different times: at the beginning, during, and in the end of the study.

- Dependability and conformability: it is impossible to fully replicate a naturalistic research because situations and context are in continuous change (Guba & Lincoln, 1989; Marshall & Rossman, 1999). Consequently, qualitative researchers should demonstrate that presentation of data and results of the study are rooted in the data and not originated purely in their mind. Detailed description of the research process assists other researchers to judge the degree to which results of the study reflect participants’ experiences. Again, I tried to be as detailed as possible in describing data sources, data collection methods, and analysis strategy. I have also kept data corpus referenced by data source and then in chronological order in a manner that is readable by common word processing software and thus accessible to other researchers (Marshall & Rossman, 1999).

Considering the purpose of this qualitative research, investigating the development of an online community among teachers who are members of a face to face professional community, I tried to follow measures of trustworthiness as far as I could. My approach was to be as detailed
in my eight months of observations as possible and provide an in-depth record of the processes underlying this research.

3.9 Ethical considerations

I got ethical approval for my study from Behavioral Research Ethics Board of the University of British Columbia as a part of the “Going On-Line with VSB’s Early Literacy Project: A Pilot Study” project. Prior to starting their participation, all participants signed a consent form that informed them about the purpose of the study, the required time for participation, and their right to withdraw from the research at anytime.

In my meeting with potential participants of the study I explained the process of research and assured them that their identities would be kept confidential. I should note that keeping participants anonymous among themselves was impossible because they were supposed to engage in online discussions and would identify each other. However, I could keep their identities confidential by using pseudonyms, which they selected themselves, in the research report.

I kept all electronic research data in password protected file folders and after the study was over burned them on CD-ROMS that would be kept in a locked cabinet for five years and destroyed after that. Online data, the content of bulletin board, was also erased after the research. I made an offline copy of the bulletin board and kept it with the rest of data corpus.
CHAPTER IV: Findings

Purpose of this study was to explore the factors that impact the development of an online professional community among members of VSB Literacy Project, as an extension to their face to face community. In this chapter I report the findings from data analysis that speak to the purpose of the study and provide insight into the research questions.

This chapter is organized into four sections covering the clusters of themes describing participants’ expectations and experience with e-VSB Literacy and the factors that indirectly or directly affected their participation. I start with status of ICT use in participants’ practice and how it affects their perceptions about use of ICT in teacher professional development. Then I explore the significance of the e-VSB Literacy initiative from the point of view of participants. The third theme deals with factors that impacted on their participation in e-VSB Literacy. Finally, the fourth theme illustrates participants’ experience with the e-VSB Literacy bulletin board. Within these four clusters, I report findings that were common among all participants and, whenever applicable, explain those findings that were specific to individual people.

In reporting the findings I have tried to be as detailed and objective as possible. However, it is difficult to ensure that I’ve covered all possible themes presented in the data set. Therefore, I have included elements of interviews and excerpts of discussions in the e-VSB Literacy bulletin board in every part of this chapter so that readers have the opportunity look at the data from their point of the view as well.

4.1 Status of ICT use in participants practice

e-VSB Literacy uses online technologies to add another dimension to VSB Literacy Project face to face community. I could see how each participant’s comfort level, current use, and
perception of importance of ICT use in education plus the availability of ICT in her work environment affected their attitude toward e-VSB Literacy. This section explores such sub-themes.

4.1.1 Comfort level with ICT

Requirements for participating in this study included having access to an internet connected computer on a daily basis, ability to use word processing software, and using email on a regular basis. Therefore, I knew that participants had at least minimal skills with ICT but during interviews I realized that the level of comfort and confidence in using ICT varied among them. Some mentors and one coordinator were very confident with technology and could use computer and Internet in diverse capacities. This is how one mentor reflected on her attitude toward ICT:

[I am] totally a seeker. I could get wrapped up and lost for hours sometimes. I'm a surfer. I check things out. So ya I use it a lot as a tool and it is amazing how quickly. Because when we were growing up we did not use it so you know it is amazing how it has become such a big part of my life. (interview 1, Wendy, November 7th 2005)

The Literacy consultant noted how the computer and Internet have affected her everyday habits:

I love it. I cant write letters any more. I cant do anything by hand. I have to use computer all time. I love it. I love that www . I love the fact that you can talk to people all over the world (interview 1, Rachel, November 10 2005)

Self confidence in using ICT was not directly related to how skillful the person was. I noticed one of the coordinators was quite comfortable with what she had learnt of ICT and was very open to asking for help from her family or colleagues at school although she knew that her level of use was limited.

I realized that in order to get along in the society and in my job to connect with people I needed to get online and plus we purchased a new computer with flat screen. And my husband is very good at it and I'm not so much. But that really helped to because now I have two email address so you know I'm emailing . so I feel a lot more comfortable than I did before because before I didn't do much with my computer.
Everything I learned about computer I learned through exploring on my own. That sort of as a need to know basis. If I need to do something then I use it and if I get stock or have a question then I ask another teacher in my school. (interview 1, Pam, February 4 2006)

One mentor found it difficult to cope with the sudden emergence of ICT and showed apprehension about having to deal with new pieces of technology. However, her fear did not prevent her from exploring new applications of ICT and even trusting in the potential of online technologies to enhance the way VSB Literacy project works. She talked about her attitude toward ICT in the first interview:

I feel a little bit intimidated by how fast technology has changed and how little and how easily I can get confused with the changes. So, I'm a bit intimidated...
....it is not something that I'm natural at… (interview 1, Theresa, October 25 2005)

4.1.2 Perceived necessity of using ICT in education

Mentors’ and coordinators’ and consultant’s perception of how necessary it is for teachers to use ICT in their practice was affected by their professional role, if they were classroom teachers or not, and their previous experiences with ICT. One reason for the importance of teachers’ use of ICT in education was related to the students and their future needs. Commenting on the idea that ICT use is probably an accessory for teachers, the Literacy consultant “disagreed” (interview 1, November 10 2005) because she thought” kids need to learn to use computer like they use pen” (interview 2, April 19 2006). I should point out that she has not been teaching for two years then and was reflecting on this topic from a different angle than classroom teachers.

Another mentor said “it requires a lot of teaching. So, I, so I believe that is necessary for me to teach.” (interview 1, Theresa, October 25 2005)

All participants believed that ICT has advantages over conventional technologies. Like Wendy, when she said “So you can bring a visual element to it [work] which you can’t do so much with overheads” (interview 2, Wendy, April 25 2006). But they were skeptical about the
necessity for teachers' professional ICT use mentioning the fact that absence of ICT will not cause major damage to education. Jen, a coordinator, supported this idea:

I can see ways internet can certainly enhance what goes on and maybe as you get into higher grades it becomes more imperative, more useful to do. I don’t know, I don’t know. Because I’m pretty sure there are a lot of very creative educators who completely bypass technology. And do some very amazing things. I mean they were, before technology came along. So presumably that should still be possible. But the internet does link you up with the bigger world in a way that nothing else really does. So I think it is useful but I don’t know if it is essential. Mind you, I’m gonna contradict myself there are kids who really struggle with their writing. And they will struggle along but if somebody put them on keyboard [and] they are off. (interview 1, Jen, February 6 2006)

4.1.3 Current professional use of ICT

Technology use took different shapes ranging from preparation for classroom, communication with colleagues, professional development, and integration in instruction, with the latter having the least emphasis.

Preparation for instruction: Using ICT to prepare for instruction included word processing, report writing, student evaluation, finding articles, lesson plans, creating visuals for classroom use, and accessing literacy websites. Such uses are reflected in the following comments:

- I use it for internet for emailing or documents, for writing reports, for evaluation, keeping track of students, records..... I use internet for research purposes. For articles. (interview 1, Chica, November 10 2005)

- I’m looking online a lot more now because there is a lot of stuff there. So ya I go on it a lot now to look for lesson ideas and.... And that’s pretty new..... I mostly use it for word processing and yes I use it all times. For report writing and lesson planning. (interview 1, Jen, February 6 2006)

- I use it about once a month probably to search for lesson plans, pictures, teaching idea. (interview 1, Theresa, October 25 2005)

- ....The Microsoft office package. I use a lot of that to create stuff for school. Like publisher is my favorite. I create a lot of cute gimmicky stuff for the classroom with visual stuff and I’m a visual learner and I use a lot of visuals for children.... I use it to find information, like there is a lot of sites that I’ve bookmarked. Literacy in particular. And some of them require password like the “reading teacher online”. So I have access to the articles. Last week I was reading an article about fluency in
reading. So ya I do look for other things, activities for literacy, stations that sort of things. (interview 1, Wendy, November 7 2005)

The Literacy consultant, who was a technology advocate, used ICT for slightly different purposes due to her managerial responsibilities. Besides using technology to create “handouts and memos” (interview 1, Rachel, November 10 2005) she was looking forward to use less print material for the VSB Literacy Project:

- We are also looking before the end of the year to get to a point where any hand outs we are doing are going to be done on CD so that we can save a few more trees. (interview 1, Rachel, November 10 2005)

- I’ve always though at the beginning that we have collected our data that we should have been doing it with computer instead of manually. This year we demand electronic data online and we are making a template and they have to just fill it out and send it in. and if they don’t have a computer they can work on they can hire extra secretarial staff to help them with but we want it all online. We have also been trying to send out any of the documents online. (interview 2, Rachel, April 19 2006)

Communicating with colleagues: Using email to communicate with colleagues was common among the Literacy consultant, mentors, and one coordinator who had been in the VSB Literacy project for more than two years. These participants observed email a fast and convenient way to ask questions or share ideas. One of the coordinators compared making a phone call to sending and email and later commented on her use of email for contacting VSB Literacy mentors:

- I think calling and email are good because I feel like my questions are answered. I don’t wanna take the time of a Literacy mentor when they have got so many things on their plates. I’d rather if there is one question or two questions I don’t wanna set off a meeting and go you know here are my two questions. So email or posting a message where I can come back and look at it. I need to know in a timely manner as to the answer to the question then I get on the phone. (interview 1, Pam, February 4 2005)

- I email a lot. That is something I’m comfortable with. I can email Wendy and I don’t know about how you know, how lesson went when I tried it. I email Rachel quite regularly and I mean that it is a great way. Type it in send it off and go and do something, come back and it is answered. So ya. I think email is great. (interview 2, Pam, April 27 2006)
The Literacy consultant acknowledged a rise in email use in the VSB Literacy Project and added that those teachers who have joined the Project since the last two years are required to use email for their communications.

Yesterday we had a meeting with our coordinators and I asked them who is online who is doing what. These are totally online. We communicate back and forth with email regularly. We send their stuff to them; they send it back to us. (interview 2, Rachel, April 19 2006)

The above excerpt shows that all VSB Literacy Project coordinators have access to email. But Jen, the coordinator who had joined the VSB Literacy Project in 2005, had never used email to contact anyone in the Project. She indicted that “I just don’t know who to contact.” (interview 1, Jen, February 6 2006)

Professional development: None of the participants had previous experience with formal online professional development. Instead, they casually used the Internet to look for particular needs. One mentor described her use of ICT for professional development as: “just totally by playing around. That’s basically, right, that’s all about it.” (interview 1, Wendy, November 7 2005). For those participants who used the Internet for professional development, however, the Internet was a resource bank, a place to find answers. I could not find one instance where any of the participants had contributed to the existing resources. This perception of looking for answers and not becoming the one who provides the answer is evident in the Literacy consultant’s experience with online professional development:

A few years ago when I starting in the literacy field I got involved with the teachers chat line and it was mostly American teacher but there were a few Canadians that could come on. And I remember one year that I was going to be given a class of K-1 and 2. and Pat Cunningham was going to be a guest speaker on the chat line at this particular time and you could go online and email a question. and she would reply. So I put this in my classroom calendar and I went home that evening and I went on and I sent in this question ”I’ve been given this class and I think I’ll have a K,1,2 in the fall and could you give me an advice on how to set it up so it would be most effective for the children. And
she emailed me back. She said I would never do a k,1,2. The end. *(interview 1, Rachel, November 10 2005)*

Nevertheless, there were other instances of ICT use for professional development and this time it was using ICT tools to prepare TPD sessions. Theresa used ICT for preparing for her mentorship responsibilities: “I use it for my workshops. I have used it to create PowerPoint presentation.” *(interview 1, Theresa, October 25 2005)*

*Classroom instruction:* Using ICT for instruction was not a popular practice among participants. Although participants acknowledged affordance of ICT for providing new avenues for learning, they were hesitant to use ICT with students due to technological glitches (I’ll talk about this issue in the next section). In some cases, they even had potential plans in mind but had not implemented them yet:

I’m just starting to more look at the internet as a tool because I can see some sites that if I had a computer here with an LCD projector. I could actually use some of the photos. I saw some from the UN and it was like showing actual kids in their classrooms around the world. How cool is that? Right it is so much better than me standing up here saying “we are all different. You are really lucky to have this education”. No it is much better to zoom in and see these kids sitting on the floor and they are eager to be there. Right? So, just for example. So that’s started to get me interested. And I’m using it a little bit. *(interview 1, Jen, February 6 2005)*

Aside from the Literacy consultant who was no longer teaching and had used ICT in her instruction before, only one mentor was committed to using ICT with her students in classroom but did not go into details of what she did with it.

So as a primary teacher I see it as a medium that the students are… that I have the responsibility to teach. So I use it in my classroom grade one and two. I use it at the school in the computer lab when I take the kids into the lab. *(interview 1, Theresa, October 25 2005)*

**4.1.4 Effect of availability and reliability on ICT use**

Technology savvy teachers who believed that technology can enrich their instruction and had given it a try were disappointed by low-end and unreliable technology and lack of proper
tech support for schools. Currently, none of their schools had a resident technician and in case of problems, teachers had to report to the district and wait for the tech person to arrive. This situation affected teachers' use of technology at three levels: in the classroom, in the school, and within the VSB Literacy project.

Teachers who acknowledged technology deficiency knew that their technological problems would not be addressed immediately, and were reluctant to rely much on technology in classroom.

I had a computer here before but the tech support was so pathetic. If you had a problem we had the guy come along once a week, half a day. It was a two hours. So he came on Wednesday. So if something happened on Thursday you had to wait till Wednesday. That was lucky if he got to fix it on Wednesday. So you might have to wait again and wait again. He is from the school board but still we only got him like half day of a week. and there was always some stupid little problems. So there was no way I was gonna use it in teaching kids. I would get a whole lesson plan and I could not get in. my password did not work. Or something really simple. Though I could not fix. So no never. I got a computer now. It is still in the box (laughter) I’ll give it a second chance. And we will see. But the minute I see the tech problems are gonna be fixed I’m gonna (makes a kicking action). Without tech support a computer is not worth it. I don’t think. I don’t have time to learn how to fix. I mean.. no. I’m too busy doing other things.

When I had my old computer I transferred all my files here and I stared to do more of my work at work. And then I was just about to back up all my files and I could not get into the computer. For months I could not get into the computer. Then over the summer the techie erased all my files, on purpose. He knew that he was erasing. So I was like five years of my files gone I had a stack of discs beside the computer in probably April. I tried to get in, I could not get in. couldn’t open up my …. Every week, could I get it fixed? could I get it fixed? could I get it fixed? Never got fixed, never got fixed. Summer came along, still wasn’t fixed. Still could not back up my files because I could not get into the computer and then over the summer he erased them. That’s the kind of thing with technology. It has got to work or I don’t want it. *(interview 1, Jen, February 6 2006)*

Aside from classroom use of ICT, teachers’ access to computer at school was also limited.

The following comments talk to this issue:

Our technology doesn’t always work up. It is slow or it is hard to get on line. *(interview 1, Wendy, November 7 2005)*

I don’t have internet here [at school] …..there is one [computer] in the staff room. But it is really slow. It is not friendly to use at all. *(interview 1, Jen, February 6 2006)*
In our school we got a tech person who came every tow weeks. Now he only come on a need basis. So we don’t even have like a technology person assigned to school. (interview 2, Wendy, April 25 2006)

Dissatisfaction with technology and the unreliability issue extended beyond schools and to the Vancouver district where ICT is not a high priority. That is why teachers in VSB Literacy project did not rely on available technology for professional purposes.

- We never have anything that reliable, we needed my computer here at school board beginning my mentoring. It had no memory and I could not save one single thing on the computer. So even works you are creating that goes to the workshops or whatever you couldn’t even hang on to. Right? So I guess I just learned to accommodate that. (interview 2, Wendy, April 25 2006)

- …..Even just workshopping it would be nice to have PowerPoint. Put our workshops on a PowerPoint. But you can. You don’t have the technology ready. So you rely on overheads. (interview 2, Wendy, April 25 2006)

- I think that is probably the hugest part. Lack of funding and personnel like resource people. (interview 2, Wendy, April 25 2006)

Positive experiences also existed. The situation was satisfactory for a coordinator who did not use ICT in her instruction and had not experienced urgent need for a tech support.

... I never had any problems with it... with computer in my classroom so I never felt helpless for anything because there is nothing wrong with it. Although the computer that I have in my room at school, the technology department often give you an email saying that they are shutting it down for this and that. (interview 1, Pam, February 4 2006)

4.2 Significance of e-VSB Literacy initiative

The initiative for e-VSB Literacy originated from a joint research project between UBC and VSB. It relied on two premises: teachers in the VSB Literacy Project feeling that they belonged to a professional community and that the project had grown out of proportion for supporting current mentoring capacity. I assumed that it is important to understand: 1) VSB Literacy teachers’ perception of a community and if, according to them, VSB Literacy a professional
community; 2) If VSB Literacy has been effective for their PD; and 3) if they felt the necessity for an online component to be added to the project.

4.2.1 Perception of effective PD

In chapter two, I reviewed recent trends in effective TPD which promote ongoing, dynamic, practical, teacher led, and collaborative interactions among teachers with a diverse range of experience. I decided to explore what practicing teachers conceive of as effective professional development opportunities and to see if their conceptions conform to existing theories.

When I asked teachers about what kind of professional development activities they found most effective, they unanimously talked about “opportunities for sharing and collaborating with colleagues”. They emphasized the importance of such opportunities after workshops and talks so that teachers can share and reflect on what they have learned. One of the coordinators explained about having such a reflection time after professional development days as a means for getting a glimpse of what other teachers have learnt from individual talks and/or workshops.

The PD I like when you are given a lot of time. For example, when you go to coordinators meeting you get a lot of information. Sometimes it is hard to ….like there are so many meetings going on in the school. So it is hard to get the time to it. The librarian in our school suggested that for next Pd if half of the day is just for us to come together as staff and say OK this is the workshop I went to on Jan 30th and here is my information. The more opportunities to come together as staff is the best thing. And hopefully what the librarian suggested was good because when you come together as a group and you share things it is very powerful. So in PD the more opportunity to come together whether it would be coordinators meeting or whether it would be staff, for PD as a team we could share so that is so valuable. (interview 1, Pam, February 4 2006)

She admitted that it is impossible to attend all concurrent sessions in a pro-d day and a meeting afterwards will assist each teacher to remind herself of what she has learnt and also pass on the information to other colleagues.
Another mentor introduced a new perspective to teachers talk by identifying them as a way for new teachers to work with more experienced colleagues:

Any one [professional development activity] that teachers can sit down and talk together. On certain topics for example if we are going to bring a speaker on literacy I think it is important that teachers still have time to talk to each other because we have teachers who have been working for 20 years and they have incredible amount of experience so we provide them with the chance of getting together and share their experience and maybe make some ability groups so maybe somebody who is just starting with someone who has a lot of experience and providing time with them in school day to talk and share ideas. (interview 1, Chica, November 10 2005)

Working with more experienced colleagues was also mentioned as a way to learn new things. One mentor mentioned coaching as an effective way for her to gradually learn how to integrate new things in her practice:

If I have to learn something that's brand new and it is very practical and it is something I must do and I've never done it before I learn best by having somebody come and model it so you know, you do it, we do it, I do it. That's the best for me and most practical for something like that. (interview 1, Theresa, October 25 2005)

Another characteristic for effective professional development identified by participants was its being identified as ongoing and practice based. They favored professional development programs are those that are designed and implemented by teachers throughout a school year where teachers meet frequently to share the achievements or shortcomings of their program and refine it respectively. These descriptions are evident in the Literacy consultant’s reflection about effective professional development:

I love PD that is ongoing. That we set a target and we work toward it over a period of time. I like PD that gives me an opportunity between sessions to go on practice and come back with questions and then go on practice again and come back with questions. I like PD when I am with other people where we can talk in small groups and build a plan and try it out. Those are they ways I like it… More hand on. (interview 1, Rachel, November 10 2005)

As shown in these cases what teachers found to be effective professional development through experience, agrees with recent trends in literature. I realized that participants refer to the
VSB Literacy project and its embedded teacher development opportunities all the time and think of effective professional development in that framework; implying that VSB Literacy is an example of effective professional development:

For me the literacy project was where it started to make sense for me as a learner compared to what I was doing. I’d done a lot of after school workshops prior to it. But they were like little snatches and I guess I do a lot more that was purely literacy focused and it put together all the pieces of that whole for me. *(interview 1, Wendy, November 7 2005)*

However, there was one cautious mentor who believed that these new perspectives on professional sharing and collaborations were not instilled in teachers yet. She was not sure if the Literacy Project had helped teachers to move forward and take responsibility of their learning and suspected that coordinators count on mentors to get their questions answered. The following excerpts demonstrate her concerns:

- I think we are just beginning as teachers to see the value of book clubs where teachers come together and study book together or videos, or if teachers are just coming together and looking at videos. I think this teacher education is sooo ingrained in the sort of you know talk and deliver model where somebody stands and spills out everything. And teacher sits and takes notes and never really has to think about it again. *(interview 2, Theresa, May 2 2006)*

- Right now the structure of the project is still stand and deliver. We bring all the coordinators together 6 times a year. we pay for their ELC. We ask them to come out of their schools. We bring them in. we feed them coffee and tea. They sit down. We stand up in front of the room and we deliver. They receive and they take it back to their teachers. Sometimes they don’t say very much to their teachers. They have just had a day where they sat, learned some lessons. Sometimes you have a coordinator who goes back and she calls a meeting right away. *(interview 2, Theresa, May 2 2006)*

**4.2.2 VSB Literacy as a professional community**

At least for five participants, belonging to VSB Literacy project meant to share the vision of helping kids to become better readers, to be committed to school year-long joint work with other VSB Literacy teachers, and to use the pool of VSB Literacy related resources and add to them.
Here is how Rachel, the Literacy consultant, describes VSB Literacy as a professional community:

It is almost like a cult. I mean that in the very best way but when we meet in the district we talk literacy all the time. When we meet in the shopping center, or in the street. Down at the beach, we talk literacy and that has been a building connection. I mean what I’m saying is because I have been here for a long time and then I have taken some years back and then I came back in this position I’m seeing people who had worked with them my first years here, who have now move up and had moved schools and are taking their expertise with them and they are expanding literacy vision to around and starting to take leadership roles and it is exciting to see that. You know I just think it’s been something that brought a lot of new energy to schools because it gives people something to hang on to and a focus to teaching and they can see the results so I think energy and enthusiasm would be the words that I would use interchangeably. You know, they [teacher in VSB Literacy Project] share a common vision, a common language, a common classroom, tools, and resources, and ideas, and through the networking and connection it is like it is village on our own where we have our own dialect and our own terminology and we all know what we are talking about when we are talking. That is like being dropped into a foreign country and the positive thing is that we are immersing others in the language. It is like a literacy language immersion program because others are learning the same language and the same lingo and wanting to be involved as well. (interview 2, Rachel, April 19 2006)

In similar vein another mentor commented:

I think that we have a common vision so that is to improve ourselves and hopefully help our kids become better as readers and writes. So I think that is our common connection. (interview 2, Theresa, May 2 2006)

I realized that five out of six participants of this study used the same three elements of shared goal, collaboration, and shared resources to describe their attachment to VSB Literacy community.

Another mentor appreciated how the Project has brought teachers closer and has given them time to share their experiences and frustrations.

For me that’s really valuable feeling like I’m on the same page as my colleagues. That we are all trying to pursue becoming better teacher and support each other so we are not feeling overwhelmed and exhausted trying to add on add on but talk about .. those conversations that we had were it is like: “Oh you know this is what I’m doing and it is like that one you know makes it easier.” How are we managing the curriculum so that it
doesn’t overwhelm us. How are we improving our practices so that it is better for kids. (interview 1, Wendy, November 7 2006)

Recognizing benefits of the Literacy Project was not limited to old-timers. During the first set of interviews one coordinator who had joined the project in 2005-2006 school year and had weak connections with other members of VSB Literacy project, commented on advantage of Literacy Project in giving teachers a focus in their teaching and in their talks.

To be honest with you I would say more of what’s changed in my teaching, everything has changed in my teaching, because I’m in a graduate diploma through SFU. And it is about literacy but it is from a different slant. But what I like about this Literacy project is that it is getting our staff talking about literacy and it is getting us to look at assessing kids and using the same measurements to talk about their growth, so that’s been good. It gives our primary staff a focus and a common framework but in terms of my teaching I have to say I give all of the credit to my graduate diploma. (interview 1, Jen, February 6 2006)

Almost three months later, in the second interview, Jen told me how she has started to make bonds with people in the Literacy Project as the time was going by and as she got to know more VSB Literacy members in the coordinators workshops:

I do here at the school ya. With the teachers here, whether it goes beyond that, I guess it extends to the people at the board like Rachel and Wendy. I would feel those are the two I feel most connected to. With Theresa a little bit. Other teachers not so much. But I think it is because it is our first year in the project and as I get to know more teachers at more schools. Because I’ll be doing more workshops. Say if I was the coordinator next year. I feel I start to feel much more like that. (interview 2, Jen, April 20 2006)

Based on Jen’s experience as a new coordinator, it looks as if teachers are gradually absorbed in the VSB Literacy community as they become engaged in the activities of the community.

4.2.3 Identifying the need for e-VSB Literacy

Although I spent some time with the VSB Literacy Project mentors before starting data collection, I was not sure what e-VSB could do for this project. When I first introduced the prototype of e-VSB Literacy website and bulletin board in a mentors meeting, they showed
interest and were excited about having an online dimension to the project. But none of them, except for the mentor who was co-investigator of the research, mentioned how they thought e-VSB might be helpful for what they already did face to face. In my interviews I asked participants about the perceived need that e-VSB is supposed to meet. It turned out that although some of the participants had thought of affordance of ICT for the project, only a couple of them had a clear vision of how ICT might be useful for VSB Literacy Project. Others started to think about the issue after I asked them to reflect on it. A major need for e-VSB Literacy that the participants mentioned, dealt with mentors' time and capacity constraints and the second less significant need was enhancing the VSB Literacy Project.

Theresa, the mentor who was also a co-investigator of “Going Online with VSB Literacy” project, presented a detailed description of why she thought the VSB Literacy Project needed to employ online technologies. She first mentioned the heavy workload of mentors and how online technologies could help mentors make better use of their time.

- We went from having 4 mentors each of them working at 40% with only 4 schools and we went to 9 mentors and each of us still working at 40% and those first 4 schools were only kindergarten, grade one, two and 3. They were just primary to 9 mentors still working at 40% to 98 schools from k-8. Which has full staffs. So we needed, without... so the percentage of schools and staff that were supporting has continued to grow and the percentage of mentors has not at all. (interview 2, Theresa, May 2 2006)

- I was curious about it but I don't think I just saw it as a possibility. A good possibility for us to be talking to one another. That was I was trying to figure out. Could we still be talking to one another? Could we have conversations about our work. (interview 2, Theresa, May 2 2006)

Two other mentors and the consultant shared a part of her view about how online technologies would assist mentors in using their limited time to connect to each other and to other teachers in the project.
• I think there is a need for people to have opportunities to communicate. Often we are caught in our little boxes, we have jobs and we don’t have time to talk and have these discussions and one of the reasons I think that is one of the new programs that we started this year that “Literacy Innovation” project that we are building a lot of release time for teachers to have time to talk. That’s the best part of the program. They love it and even here in this office we are working in similar fields but we rarely have the chance to talk and say “what are you doing?” so I think having some time online gives people that opportunity. (interview 1, Rachel, November 10 2005)

• With the online forum I see it as a way to get a discussion going when you are not in the same room with somebody. Because it is hard to do that. You know in schools it happens in staffroom because that’s the only time we got together right? But with other colleagues if you think of them going outside of school and particularly for us as particularly for us as mentors we are so busy even during our mentoring days that we hardly get those times to sit and talk. I think the forum provides us with a way of dialoging with each other..... like I said again that opportunity just for some dialogue when you don’t often get the chance to see all those colleagues. (interview 1, Wendy, November 7 2005)

One mentor also pointed out that e-VSB Literacy strengthened VSB Literacy learning community by increasing chances of communication:

I think the biggest thing for me is that knowing that you are in a community of learners and that community of inquiry again going back to it....I hate staying stagnant and not moving so I’d say for me that, and then the potential of it I think. (interview 1, Wendy, November 7 2005)

In their second interviews participant were able to reflect on the need for e-VSB Literacy in a more realistic way. That’s because they had their seven month experience with it and their judgments were more informed. Besides its advantages for mentors, the Literacy consultant also credited e-VSB Literacy for helping individual classroom teachers to connect to their peers, coordinators, and mentors:

Because teaching is a very isolated profession. You can go in a school and be on your classroom and you are teaching here and somebody else is beside you but you hardly ever talk. So having something like this a a good venue. One of the thing that Literacy is giving teachers time so they can get together but not everybody takes a [] so it is nice to have something for people who are on their own to have some communicating. Or for example you might be the only k teacher in school. There is no other k teacher so to have a place when you can go and get some more information is good (interview 2, Rachel, April 19 2006)
One coordinator reflected on how e-VSB Literacy would help her in her responsibilities. In her experience, she had little time for asking questions and talking with other coordinators and mentors in face to face meetings. She thought e-VSB Literacy would be helpful in that regard:

I know that it would have been a valuable recourse because that could have been just as the fact that I got at the coordinator meeting. Because although in the coordinators meeting there is real life but even communicating and expressing kind of giving lesson, I’m sure that going online would be very valuable as well. But that was one option of many and I think I could have gone on there but I didn’t. (interview 2, Pam, April 27 2006)

In my second interview with a coordinator she talked about her point of the view of how e-VSB Literacy can be helpful for coordinators. As bridges between mentors and their staff at school, coordinators needed to explain new strategies, like new data collection methods, and it is not always easy to fully learn and understand those strategies in a one day meeting and then take them back to school. This coordinator realized that e-VSB Literacy is one way to make things more accessible for future reference. She noted:

I can suggest because after my workshop on Tuesday I had this thought that at the workshops that we go to them it would be really useful if after every presentation or at the end of the day, there was a summary. So as the coordinator these are some ideas that you should be taking back or could be taking back to your staff. Because sometimes we are kinda left to figure it out. I mean you weren’t there on Tuesday but it was very confusing morning with all the stuff about technology and submitting data electronically. In the end I said so I think what we should say is nothing because it will confuse people. Because you are gonna tell us more stuff. And they said ya don’t tell this to your staff. Really it is gonna make them anxious. (interview 2, Jen, April 20 2006)

But from this point onward, Theresa’s perceived needs for e-VSB Literacy were more personal and less shared by others. She moved from the idea of mentors having more opportunity to communicate, to formation of interconnected professional communities within and among educational institutions:

I think teachers and teachers’ learning through conversation with one another is a critical need that we have. And I think to go to a broader community like now what is happening
is that we are communities become insulated. There are just one building, one school, one
group of people that it is hard to cross pollinate. So that’s what I think would be useful.
Through the computer I think we could start to see some of that. *(interview 2, Theresa,
May 2 2006)*

Her involvement with the original research proposal was a unique experience and I could not
find much clue of if she had ever shared her points of the view with other VSB Literacy
members.

I had invited [the professors from the university] to come and they stared to come and
spend time in the steering committee meetings and then [a professor from the university]
and I filled it up and [a professor from the university] helped me with collecting stories
and we had these stories and we had [a professor from the university] as a key-note. She
talked about elements of a professional community and then [a professor from the
university] and I talked about... [a professor from the university] came to me we had this
invitation to apply for grant money that was specifically targeting Vancouver schools and
he sat with me one afternoon and kept asking how could we help this project. How could
this grant money help this project. And in that conversation that we came up with that. So
what I can tell you though is if it was [a professor from the university], I think we came
up to it together. I kept thinking how do we keep these teachers learn and I kept wanting
to help the teachers learn more about a professional learning community. And [a
professor from the university] kept saying : how can we help you? So he wrote it up
“Literacy Project Goes Online” and we thought we try that avenue. *(interview 2, Theresa,
May 2 2006)*

She also came up with a practical example of how a video file about making bookrooms in
e-VSB Literacy website could save mentors time.

We don’t have enough mentors, this is a very practical easy to do job. How could we
make it easier? And I said why don’t we just do it before a video. And the first response
was “videos are expensive”. I said no. a small digital clip that could go on the website
and one of the other people said Ok, lets do that and see what happens. So it is about
trying to take some of the very basic elements and put those...make them available to the
teachers. *(interview 2, Theresa, May 2 2006)*

In spite of a relative agreement among some participants about why VSB Literacy might
need ICT integration in its structure, it is evident that the need for having an online component
has not been carefully thought through by the participants. In the next parts of data analysis I will
point out how lack of a shared need effected participants’ commitment to and participation in the e-VSB Literacy.

Participants also mentioned that technology can contribute to the VSB Literacy Project as an enhancement to what already exists. I am hesitant to call it a need because participants talked about it as a possibility or as one coordinator said: "I just think that it is a great tool" (interview 2, Pam, April 27 2006). The following interview excerpts show participants’ perception of e-VSB Literacy:

- Well I would like to see us have an active looking web page, where people can come on and check into what we’ve got and get more information, download things they want and just have another source or resource. (interview 1, Rachel, November 10 2005)

- I think that’s one more tool that adds to the whole picture. And I think it is a valuable one and I think I personally would like to use all.... I mean I cant use everything because I’m not perfect but I would like to be able to use all the different tools that are out there to help me with my PD and so that there is no sort of areas that I’m not familiar with so I can take full advantage of all that’s out there. (interview 1, Pam, February 4 2006)

Despite its potential to give VSB Literacy members an extended opportunity to communicate and share, participants did not think of the e-VSB Literacy as a vital need for the project. There was no doubt that the existence of e-VSB Literacy is beneficial, but participants believed that even without it the Literacy Project would not be paralyzed. For example, in response to the question of how significant it is to have access to e-VSB Literacy, Wendy, who was an outgoing mentor, thought that even without e-VSB Literacy she still can use other available resources and make the contacts she needed.

Probably not for me significantly. Because I’m the type of learner who seek out a lot of stuff, like I seek out a professional book to bring home and kinda glance through or if I get a chance to read a chapter or what ever at a time so I tend to do those thing already I think for me it would be just an enhancement of what I’m doing. And like I said again that opportunity just for some dialogue when you don’t often get the chance to see all those colleagues. (interview 1, Wendy, November 7 2005)
Moreover, she believed that technology in Vancouver District has a low priority as evidenced by the lack of a necessary infrastructure for an online component. This deficiency, in her opinion, has prevented teachers from even thinking about such possibilities.

Because we are so used to not having technology I think we probably would exist without it. Do you know what I mean. And I know teachers who still don’t go to the district website because it is not accessible. It is not perfect. (interview 2, Wendy, April 25 2006)

In short, even this small group of participants was not on the same page about what needs e-VSB Literacy might meet and how significant are those needs for the Project members. The mentor who first came up with the idea of e-VSB Literacy argued:

I don’t even think the mentors truly understood how to use this as a form of communication in supporting teachers. (interview 2, Theresa, May 2 2006)

Thus, two mentors and the Literacy consultant provided much of the information about why e-VSB Literacy is or is not needed. I can attribute this to their role in the project and their personal attitude toward use of ICT in the project. Earlier I explained why one mentor, Theresa, was so excited about the e-VSB Literacy initiative. The other mentor, Wendy, was computer savvy and could anticipate if her colleagues would or would not feel the need to use online technologies in the VSB Literacy Project. In case of the Literacy consultant, she had a managerial role in VSB Literacy Project and understood and in some cases used ICT to make things more effective. One example of her attempts which had been successful was to require all new schools that had joined the project in the last two years to communicate with her electronically:

But I came on last year with these guys full time [referring to her position as a full time Literacy consultant] and I said I only communicate with you through email. I'm not sending anything out with mail. So I need you to be using your email address and be corresponding with me. These guys have been in for 2 years and we used to not doing it but now as we push onward they are going to be using technology. (interview 2, Rachel, April 19 2006)
One of the mentors, who was skeptical of the need for e-VSB Literacy, however, believed that different people have different needs and speculating that a larger group of VSB Literacy members might shed more light on if e-VSB Literacy is needed. She commented:

I think teachers are very busy on a daily basis. I think that giving them the opportunity to continue working after school and using internet to discuss professional issues I don’t think it would actually meet the needs of teachers....I think if you were to survey more people other than just Literacy mentors you might get different answers. So you could consult with them. You know teachers that maybe are looking for it. We are involved in providing people with information. So for us I think or for myself, I see it creating a lot more work for me and I really feel that I’m stretched out. (interview 1, Chica, November 10 2005)

4.2.4 Doubts about future of the e-VSB Literacy

In the second interview we talked about how participants evaluated the success or failure of the initiative. The Literacy consultant who was interested and passionate about the initiative from the beginning hoped that e-VSB Literacy would continue. She believed that people were getting used to using it and that they found it valuable.

I hope it continues because the 1st year takes time to get people using it and now they really starting to use it. And to take it away will really deflate them. (interview 2, Rachel, April 19 2006)

However, I did not have access to those people who, according to Rachel, counted on the e-VSB Literacy continuity. In the small pool of participants of this study I did not observe such devotion to the initiative. As a result I cannot completely agree with Rachel about how much she thought the e-VSB Literacy meant to VSB Literacy members.

Wendy, on the other hand, was more realistic about success of the initiative when she commented:

I would definitely say it was a success. Because it has gotten some questions out there. (interview 2, Wendy, April 25 2006)
She believed that the initiative has started people thinking about the possibilities. This was more in line with my observations of how VSB Literacy members reacted to the e-VSB Literacy initiative.

Theresa, the mentor who originally came up with the initiative, did not see a huge impact on VSB Literacy members owing to the e-VSB Literacy initiative. Comparing the initiative to her personal experience of how it takes time for some ideas to prove useful, she believed that it was still early days for the initiative and that people would understand it later.

I think it has been terrific. It has been terrific working with you and I think it has been eye opening for me and where people are with respect to using the technology that is available to us. And I think that is what I was saying earlier that the PowerPoint I created four years ago and it has been used but here it is three years later and people are like, let me use that, can you send me a copy to me? So they are ready now to use LCD projectors and CDs and PowerPoint..... and I don’t know if we were even ready, for having this way of talking to people and with one another ......I think we might have been ahead of our time. That’s the healthiest way I can look at it. Ahead of time. (interview 2, Theresa, May 2 2006)

Another concern regarding the e-VSB Literacy initiative was its chances for future survival and continuity. Again most of the insight came from Theresa and Wendy, the two mentors, and the Literacy consultant. They were not sure who will take on the initiative after the pilot study and whether district will be interested in supporting it or not. Up to this point, nothing had been negotiated between the VSB Literacy Project and the district regarding that issue, but participants were skeptical of the district being supportive or even interested. The following comments show participants concerns:

• I’m worried about what is gonna happen next year....I would love to have it here by VSB and that may happen but I don’t know. There is some controversy in our tech department. I don know what the source of it is. So I don’t know. But it would be a nice thing to carry in with. And perhaps we can have someone like Pat helping to manage it.....you know our situation here. I don’t know. It would be wonderful but I don’t know what will happen. And I don’t know who would be willing to be
responsible for it. Because there need to be someone with enough technological savvy. (interview 2, Rachel, April)

- That is the challenge. We have to have somebody that takes care of it and whose job would that be? Because you know your project is one year. I guess it [continuity of the initiative] depends if there is gonna be a commitment from someone somewhere to keep it going..... unfortunately I would have to say no [to the idea that district will continue implementing the initiative]. I don’t think. I haven’t seen that commitment. (interview 2, Wendy, April 25 2006)

- I think it belongs to the district. I think that this should be a part of somebody’s job at the district. I think teacher resources and curriculum and ideas need to be available to the Vancouver teacher... I don’t know. I think it belongs to the technology guys. (interview 2, Theresa, May 2006)

Theresa suggested that the technology department of the district should take the responsibility for the e-VSB Literacy initiative. But when I asked about if the technology department could manage the e-VSB Literacy on their own, she suggested that she might have to play a more active role:

Well, then it belongs to curriculum people and that is district learning services. And maybe it belongs to us. Maybe we are the ones that have to say "look, this is what we do. (interview 2, Theresa, May 2006)

Problems with district support for technological initiatives were not a new thing for Wendy. She talked about her past experience with a similar initiative and explained how it was never started.

Earlier on, a couple of years back it was talk of doing what you guys are doing now. Putting things online and this colleague of mine has actually worked in this area and set some platforms and he actually came to meet with Jan Wells. And so he was gonna come to me to talk about its possibilities. Never kinda got off the ground. (interview 2, Wendy, April 25 2006)

A common concern with regards to continuity of the e-VSB Literacy initiative was that lack of proper technological, or financial, support from the district can quickly put an end to it. To this point and based on what participants shared about existing support from the district I’m not
sure if the e-VSB Literacy will be carried on for the coming year unless, like this year, external funding becomes available.

4.3 Factors that impact participation in the e-VSB Literacy

Various reasons like lack of time, how job action interfered with the way the study unfolded, and misunderstanding on the part of some participants about their participation requirements, impacted participation and consequently the growth of e-VSB Literacy. I should point out that these factors are closely interrelated to each other and I found it impossible to look at them individually. There will be cross references among the collection of factors when it makes sense.

4.3.1 Time constraints

Every one of the participants—the Literacy consultant, mentors, and coordinators—put their blame on lack of time for not contributing to e-VSB Literacy. They talked about how busy their schedules are and that they would hardly find a time after school to participate in the e-VSB Literacy Bulletin board or to contribute to the content of the website. It was interesting that they had decided to use their time at home and not at work to contribute to e-VSB. For the two coordinators who were full time teachers and had limited access to computer during the day this made sense, but the Literacy consultant and the three mentors expressed that their time at district office is so full with mentoring or organizing responsibilities that they cannot count on that time for making contributions to e-VSB Literacy. One mentor uttered her lack of time from the very beginning and concluded that e-VSB Literacy would not be a priority in her schedule.

A lot of times after work I really don’t want to focus on work. I want to go home and go exercise or do other activities that are not about work. So, I don’t really feel comfortable carrying my work home. Or after school. Or if I wan to use after school hours for doing the work that is relevant to my work or what needs to be done at work but not give myself extra work. (interview 1, Chica, November 10)
Those were the final words for Chica because she was determined that she would not take part in bulletin board discussions. For other participants I could compare what they said about how time would affect their participation before, or in the beginning, and after using e-VSB Literacy for a while. However, I could see a similar trend in other participants’ experience with the lack of time. Although the rest of participants presented similar thoughts, I decided to include how they commented about role of time in their active participation:

- Obviously if I had more time. I mean I’m pretty overloaded with the things I’m trying to do. (interview 1, Jen, February 6 2006)

- Any teacher has it [problem finding time]; and to actually have the mental capacity left at the end of the day to actually think straight. I’m not joking. This job is exhausting. (interview 2, Jen, April 20 2006)

- So I haven’t used it that much. Maybe once. But I do intend to use it when I have some time but I find there is so much going on in your job that you don’t know if you have time for it....I don’t think they have a lot of time so I would probably be the go between. (interview 1, Pam, February 4 2006)

- I just feel that I ... I felt overwhelmed and there is so many things to do and I cant do everything. And I’m trying to learn what is more important than other things like in terms of prioritizing things. (interview 2, Pam, April 28 2006)

- I don’t think some people can enough put the time in and I think some people don’t have enough time to put the care into it. For some people they have other demands on their time for family or what not. For some people it is just, it seems like too much work for them....I think that I did not have enough time to give to some parts of it. (interview 2, Wendy, February 25 2006)

- It also is a time factor. Just because we have so ...only so many hours in the day and I try to schedule time to fit in. (interview 1, Rachel, November 10 2006)

- For me, I’ve had a hard time finding time to do it because I’m often here till 6 or 7 and then if I go home and do my email. That’s about as much energy that I have. Let alone going on and doing some work. I know some teaches have used it and enjoyed it. But it is tough to have time in this particular job to do that because there is never time during the day. I’m just randy coming in and it is usually times when it is non stop so ... (interview 2, Rachel, April 19 2006)
If I look at it from a grumpy way, well I don’t know, I don’t know if I can look at it in a grumpy way. The conditions for the mentors are phenomenal. Their work is overwhelming and the demands are never ending. So with respect to trying to create the conversation, professional conversation online, we are group of people who haven’t got a minute to breath and really truly and we work Saturdays and Sundays and we are doing terrific work without any other incentives at all. So that can get wearing for people. That is truly wearing and wearing with teacher and trying to help them look at their practice is tiring. And it is the same as presenting g with teachers and school staff. (interview 2, Theresa, May 2 2006)

4.3.2 Relevance of Content

Undoubtedly, teachers busy schedule affected the time they were able to dedicate to participating in e-VSB Literacy. But participants mentioned that e-VSB Literacy had not been a priority for them. This means they managed to take care of more important things even though they were pressed for time. I concluded that relevance of e-VSB Literacy to their work affects active participation in e-VSB Literacy and that lack of time was a cover and not the real reason.

When I first asked the Literacy consultant what could encourage her to contribute to e-VSB Literacy, the first thing she mentioned was relevant material:

It would depend on what was online and my time. You know if I got involved with some conversations or some relevant topics I would use it more regularly. (interview 1, Rachel, November 10 2005)

Another mentor added:

I think the main thing is if they go to a website or discussion forum that has to have something that is relevant and practical. (interview 2, Wendy, April 25 2006)

Participants suggested that the website and bulletin board should contain lesson plans, video clips of real classrooms showing a specific strategy, grade-specific material, downloadable files, and a place to share resources. Such content, according to them, increases the relevance of e-VSB Literacy to teachers’ work.
Two participants emphasized lack of match between what was presented on the e-VSB Literacy website with their agenda as the main reason for not contributing to website, bulletin board or both.

Chica, who is a French immersion mentor, believed that she would be interested in participating in e-VSB Literacy if it had a French immersion part. Recognizing the general lack of resources available for French immersion teachers, she thought e-VSB could be valuable for this group of teachers.

There is not enough things for French immersion. I think an area which teachers tend to search for would be French immersion because there is not a lot of resources and it is very difficult to come across them. So if there is a specific site for French immersion teachers that showed resource I think a lot of teachers would go and use it or it had pictures and ideas I think. Because there is a lack of resources or awareness of resources in French immersion field. Because it is not something like you cannot go to Kidsbooks or you cannot...there is not the availability that you have in the English program. So I think it that was used in that fashion I think it would be a lot more feasible or people would use it more frequently. (interview 1, Chica, November 10 2005)

Another coordinator mentioned the mismatch between her teaching style and what is practiced in VSB Literacy Project. In her first introduction to the e-VSB Literacy website she could not find anything she was interested in and had decided not to spend her time browsing the website again. I was curious that how would she know if over time something of her interest is added to the site. Her response was more concerned with the way information is visualized in the website and how it is hard to find at a first glance:

If I see something in there that is good. Like I know there is some good research articles that would get me interested. But I don’t know if they are there and until I go in I wont know. will I? But if I knew that. If I knew it was in there...cause there was some things they said when they showed it to us that was interesting but I forget what they are. (interview 1, Jen, February 6 2006)

In the second interview she added:

Although I’m telling you that I never used it but depending on what would be there I would read it. Say there were articles and things like say spelling. What does research say
about that? I would read it. But I had to know first it was there. (interview 2, Jen, April 20 2006)

There was also another aspect of relevance and this time it was "relevance to who". I noticed some suggestions that new teachers would benefit more form the e-VSB Literacy because they would have open access to resources. The Literacy consultant commented:

I can see it particularly useful for who are starting into Literacy or who are new to teaching. Because at the end of the day you can go there and get some ideas. (interview 1, Rachel, November 10 2005)

Considering teachers’ concerns with whether e-VSB Literacy has an added value to what they already do, relevant content can encourage them to find time for contributing to the website and participating in the bulletin board.

4.3.3 Access to credible answers

One factor that could positively affect participation in the e-VSB Literacy bulletin board was having access to people who could provide credible answers to questions.

I think if you were able to ask a particular question I think I got an answer from an expert that I see as a valuable tool. So there would be an expert giving me an answer not for me to discuss per se. But for me to get answers. (interview 1, Chica, November 10 2006)

VSB Literacy mentors have monthly meetings and they meet with coordinators six times in a school year. As mentioned before, sometimes coordinators do not have enough time to share all their questions or sometimes they need advice between meetings. In those cases, e-VSB bulletin board can be a good medium for asking questions. One coordinator favored the possibility for asking questions in a medium like the bulletin board because she believed other VSB Literacy teachers who have the same problem might refer to the answer she received as well.

The whole idea of we having to post something and come back later and then have your questions answered is very good...in our school there are new teacher [and] experienced ones. Really experienced teachers they all have questions so they can all come to me or I can share the website with them and that would be helpful....I had that question as my
reason to get an answer so it is kinda useful when you want to find something out.  
(interview 1, Pam, February 4 2006)

And I think it will be valuable for other teachers because there maybe other ones who are new to it and don’t know the answer to that question. They may say great! Someone else asked it and I didn’t because I did not have the courage. (interview 2, Pam, April 27 2006)

Another issue was how participants could figure out if the answer they have received is a credible one. It did not seem to be a grave problem however, because as one coordinator said they could verify the answer they received according to their professional judgment.

I mean it either gonna make sense or it doesn’t. it is not like someone is telling you how to diagnose and treat someone with heart disease. It is a whole different matter. And if I have any judgment and experience as a teacher I will weight what I get against my judgment. So, I think it is OK even if they weren’t. I mean if they wrote a silly thing I would say this is silly and I would want any more. if it was unprofessional I would know, right? i think it would be obvious one way or another. I could be wrong but that was not a factor. (interview 2, Jen, April 20 2006)

I also think the anonymity level impacted how participants’ trusted the answers they received. Participants could identify each other in the forum because they used real names in their messages. Moreover, they knew that all of them have minimum professional experience and anything said in the bulletin board has an acceptable quality. Basically, while being able to receive answers to Literacy related question would increase the use of bulletin board, teachers were not deterred by the possibility that the answer they receive might be a wrong gone.

4.3.4 Active discussions

With regards to activeness of e-VSB Literacy and how it affected participation, I realized that participants refer to the bulletin board as the major component of an online community and as a measure of its success or failure. However, I did not separate their comments regarding the bulletin board and the resource website because these two components together form the foundations for an online community.
Apart from one mentor, Chica, who decided not to take part in online discussions from the beginning, others were open to give it a try. After a time, low participation level in the bulletin board deterred participants. In short, lack of a progressive increase in participation in discussions discouraged active members to further contribute to e-VSB Literacy.

Although in the beginning some participants were even excited that VSB Literacy Project had started using ICT to enhance its performance, one coordinator shared her concerns regarding the growth and sustainability of online discussions. She was then taking part in a graduate diploma program at SFU where they had been asked to use a bulletin board during their program. The bulletin board, however, was not successful at all and based on that experience she was skeptical about e-VSB Literacy growth too:

We use the exact same format in my program. But nobody uses it. Initially it was a requirement. We had to log on so many times. Really people struggled to get it done. It wasn’t great. It didn’t seem very alive or very useful really. Even it is interesting because we have some long distance learners too all around the province who are part of the program and you would think it would be a good way for them to stay connected but for some reason it didn’t quite…. I don’t know why. It was never an active tool….I just noticed it faded away. Completely faded away. I think the last entry was probably a year ago …so it would be interesting to see if this one is used or not. (interview 1, Jen, February 6 2006)

When I first interviewed participants, they had already started using the discussion forum and had experience with it. The reason why I did not talk to them right at the beginning was the job action in October 2005, when teachers were preoccupied with strike related issues and refused to take part in any interview. After the strike was over, I conducted the first round of interviews and realized that although it was the beginning of their bulletin board use, participants saw low level of activity in their discussions. One mentor who had lots of hope for the bulletin board to be a place for professional communications, expressed her dissatisfaction with the
activity level of bulletin board and then suggested that it might take a long time before teachers adopt online communication tools as a means for professional communication.

- People have to use it [or] you are not motivated to peak at it. If there is nothing on it to go like I did today ..there was nothing there and I was like what I'm supposed to do with it. There is nothing. So we will see what happens. (*interview 1, Theresa, October 25 2005*)

- In terms of my own children there is not a doubt in my mind when they are at the university they will be taking online courses and they will be already learning a lot about each other under MSNing with their friends and their chatting and they got all their own language. so if they get the idea of community online I’d love to see it happen for the teachers. And like to start to make sure that I can see it. I just think that it’s gonna take a lot longer than I thought, or maybe not. (*interview 1, Theresa, October 25 2005*)

She later added:

- I am such a positive person that I had huge you know I had grandiose potential for this and I think the reality was much smaller than I ever imagined. I never imagined it would be this small. That it would be that hard to stimulate some sort of conversation. (*interview 2, Theresa, May 2 2006*)

Another mentor looked at e-VSB Literacy from a wider angle, considering both the bulletin board and the resource website. Value of an online community, she believed, was in keeping people up to date and offering them new things whenever they stop by. Similar to previous comments, she was discouraged by the slow progress of e-VSB Literacy.

I think my frustration is I like to see things happen. So I like to see all the pieces on there and I think we have some pieces started there but again I think we need to add pieces on and I think we are trying to do that and you guys asked us to send us stuff to so I can get updated and get new information there. Because I think that is important to keep things fresh and practical and user friendly. (*interview 2, Wendy, April 25 2006*)

I think one of my frustrations when you find something and everything is new in that site and you go back and you don’t find anything new. So sometimes it stays stagnant. (*interview 2, Wendy, April 25 2006*)

Another common thread related to growth of e-VSB Literacy was an emphasis on e-VSB Literacy as a group effort that can not survive with one person or two using it. Participating in
the bulletin board for some time and then remaining silent and waiting for others to show some feedback or activity was a common practice among participants. Like a coordinator who had a previous unsuccessful experience with bulletin board said:

- I kept checking it and I did not see one new entry since about the first week or two where I first posted. I just would check once in a while, still nothing, still nothing...So, I’m not gonna post anymore. It has to be more people. (interview 2, Jen, April 20 2006)

- You know I did check quite a few times and I thought nobody has posted, there is nothing to read. I’m not gonna go back to something that’s now a month old. (interview 2, Jen, April 20 2006)

- I think it was Joan that might have been the last postings and nobody responded and I thought that I don’t have the energy to make this work for anybody but it has to work for me. I’m not trying to make it work for someone else. (interview 2, Jen, April 20 2006)

Similarly, a mentor who was active in the beginning of the study showed reluctance at being the only person talking in the bulletin board.

The other thing that held me back was that it is me talking all the time maybe I should let someone else have a say. (interview 1, Wendy, November 7 2005)

4.3.5 Commitment to use e-VSB Literacy

Tightly related to the activity level in e-VSB Literacy, was the commitment participants felt toward it. As with other innovations, those participants who decided to stay with the study started with a positive energy and committed themselves to providing material for the resource website and contributing to the bulletin board. However as the time passed I realized that participants who were active in the bulletin board regularly decreased their contribution or stopped it all. As the last factor showed this situation was partly because of how participants were discouraged because they could not see much activity in the bulletin board. Added to this, they talked about how they gradually lost their initial commitment to e-VSB Literacy.
In the beginning, participants felt a commitment to fulfill participation requirements for the study, which was checking the website and the discussion forum once a week. They reflected on this commitment in their interviews:

- Maybe it is because that we just started but I have to make sure I go check it. I have to sort of say Ok I need to go and do that. But once I’m in there I usually spend probably 20 minutes just kinda flipping around, reading different things. I don’t always post something. (interview 1, Wendy, November 7 2005)

- I did check it. I mean initially I put in a bunch of posts, thinking OK if I’m gonna be in this I’d better put something out there. (interview 2, Jen, April 20 2006)

One mentor, however, attributed the commitment she felt toward participating in e-VSB Literacy to her being involved in the study as a co-investigator:

It is different for me one of the things I asked for it to be part of my time. So I say not to other things as Literacy mentor till that I have time to do it. If I did not have that, I don’t know, it is like anything new though right? (interview 1, Theresa, October 25 2005)

But this commitment decreased with time and as one mentor said: “earlier on I was more committed to going and checking and posting” (interview 2, Wendy, April 25 2006). A coordinator, too, expressed that she felt “guilty” not to have fulfilled the requirements of the study (interview 2, Pam, April 27 2006). Because the mentor who had affiliation with the study as a co-investigator held herself responsible for frequent participation, her reflection on her actual commitment to e-VSB Literacy provides a rough picture of why participants of this study did not follow participation expectations:

It was supposed to be a part of my job this year and if I was to say at one day a week mentoring, so I mentor 20%, I could look over my day book what percentage of my time went to this. Probably not a lot Hedieh. Probably not a lot. Couple of time we’ve met on Tuesday. (interview 2, Theresa, May 2 2006)

I don’t even feel, when I think about it, I don’t even feel like we experimented with it. I think it was one more thing for people to do and I don’t think that any of us really got ourselves to a place where it is like: ya this is a great thing to do. It was one more thing to do. (interview 2, Theresa, May 2 2006)
Here I have to explain a misconception that happened when I first asked mentors to volunteer for this study and which affected the way the study unfolded. The co-investigator of the “VSB Literacy Goes Online” who is also a Literacy mentor put the “introduction to the study” on the agenda of one of the VSB Literacy steering committee meetings in September 2005. I introduced myself to the meeting and then left the room to set up the computers so that all mentors could experiment with the website and the bulletin board and decide on volunteering for the study. When I met with them in the computer room, the co-investigator had already talked about the study so I showed them around the website and they all got a user name and password for the bulletin board and sent a sample message. I explained the study again and after that distributed the consent forms. Only one mentor did not sign the consent form. So I assumed that by reading the consent form which delineated the study in detail, they knew why they were volunteering and what would be the requirements. Later I found out that some people who had signed the consent forms had thought participation in this study was mandatory and a part of their job, an unwanted part for sure. That assumption led to a resistance in research participants toward the study. In one of the beginning interviews, a mentor mentioned such a situation while she was reflecting on why e-VSB Literacy might not be a high priority for teachers:

When I’m answering this question I’m always thinking of what other teachers maybe thinking particularly teachers within the Literacy Project they gonna see it instead of necessary mandatory. Rather than a willing thing they are going through. And for them, they might perceive it as accessory. (interview 1, Wendy, November 7 2005)

Knowing this, I tried to be very clear when I introduced the study to coordinators and then set up individual times for them to get to know the study better. As a result, the two coordinators who decided to participate did so because they were interested in the study.
4.3.6 Effect of job action

British Columbia Teachers Federations' industrial job action from October 7th to October 23rd 2005 severely affected this study. Volunteers for the study signed the consent forms on September 13th 2005 and then they got busy with the strike related issues. From that time onward, participation in e-VSB Literacy became less of a priority. In the same way, all VSB Literacy meetings were postponed due to the strike and my meeting with coordinators that was planned on October 1st 2005 did not take place until November 22 2005. In her first interview which took place almost two weeks after the job action, one mentor described how it had affected her participation in e-VSB Literacy:

I intended to do it once a week and usually the weekends right now and I got kinda thrown off with the whole job action and it is hard to get back into that routine but I was checking in probably for sure once a week. (interview 1, Wendy, November 7 2005)

Another mentor gave a more comprehensive account of how job action affected VSB Literacy members works:

This is that ever year that we had job action any innovative work has been wonky. And because the year gets wonky. We lost our beginning of the year. so and rest of it is crazy catch and so the thing that we had planned where we would had right at the very beginning, meeting with the coordinators, celebrating the website, bring them in to the forum all those pieces never got.. they never happened. And you cannot catch that back. And so was it was3 weeks but you have to know that for us in terms of three weeks that is the week before we go on job action and then it is about 2 week afterwards. So it is a good 6 weeks so that is a month and a half and all of the sudden the report cards and so for me that was traumatic. Plus the condition of the job action was traumatic for all of us. And the emotional drain was pretty... it is still being felt. So we are on pins and needles. So I think that for this year had an impact on us in sort of where this thing.. how it got off the ground and how we should adjust it based on how to respect teachers and asking them to try something and ya. And just the flow, just your regular flow. So for us even the project this year we would say we look back and say it was all weird because we were not able to connect. We were not able to have our regular meetings. We did not have the regular times and squeezed everything in. man, this was just one more thing. So i think that it had more of an impact that we ever really talked about to tell you the truth. (interview 2, Theresa, May 2 2006)
4.3.7 Socio-technical issues

I discuss the impact of socio-technology related issues on participation in e-VSB Literacy in two parts: the resource website and the bulletin board.

Participants were generally happy with having a resource website, because they had never had such an opportunity to gather Literacy related resources and artifacts in an accessible virtual space. Below I explain the one problem I encountered with the website.

As I explained in the methodology chapter, contents of the resource website resided in the web server of the Faculty of Education at the University of British Columbia and as a result the URL for accessing the website was long and hard to remember. The “Going Online with VSB Literacy Project” research group decided to provide a simple URL for the website that carried the name of VSB Literacy project and was easier to memorize (www.vsbliteracy.org). So, anyone who entered the new URL in the address bar of their web browser would be redirected to the site without even noticing that the website resides in a different URL. However, I realized that sometimes web browsers failed to redirect to the website correctly and the user received an error message.

I noticed that problem while I was abroad trying to open the website. I figured out the problem was related to proxy settings in my web browser and that the new URL worked OK when the setting was correct. Later one of the coordinators complained about the same problem and because I did not know which kind of web browser she was using I gave her the original URL so that she could access the site. This issue, compatibility across platforms and browsers, needs more attention in future to prevent teachers getting discouraged by technological glitches.

The resource website developed for this study was static and I was in charge of updating it. From the beginning I asked all VSB Literacy members, those who participated in this research
and those who did not, to send me whatever they found suitable for the website so that I could upload it. This strategy worked for a small scale study like this but as I asked participants what could make the resource website more feasible, one mentor suggested an automatic submission system:

I think I mean I’m trying to think of some of the sites I visited and what their process is. I guess you send it in somewhere. I guess, you can add lesson plans on. There is a platform for that to submit things. Other than that I don’t know how it would happen. I mean I guess you almost need to have something like that built in for it to be sustainable.

(interview 2, Wendy, April 25 2006)

Having such automatic submission forms makes it easier to submit material directly to the website without having to contact someone by email or other means. The next iterations of e-VSB Literacy should take this into consideration.

Participants’ feedback about their experience with or perception of the bulletin board from a socio-technical point of view contained two categories: 1) difficulties or disadvantages and 2) perceived and experienced advantages.

Difficulties with using the bulletin board: difficulties or reservation with contributing to the discussion forum had two sources: (a) problems in becoming fluent using the bulletin board; and (b) not being comfortable with sharing one’s ideas through the bulletin board.

None of the participants resisted learning how the bulletin board worked but two of them showed their concern about their technological incompetence with it. One mentor, who learnt how to use it and was an active participant, expressed her reservations towards bulletin board as a new piece of technology:

How uncomfortable it is for me to learn new things. So even learning the forum. I’m still not very comfortable there. All kinds of different pictures different stuff in there that I
don’t know even what it means so I feel vulnerable there. (interview 1, Theresa, October 25 2005)

For a coordinator the problem with the technological challenges was more complicated. Although she had learnt how to use the bulletin board in an individual session she had forgotten all about it and had confused the email form on the website with the bulletin board:

I think I put some thing in the discussion on the web and Joan emailed me back. Still haven’t got that figured out yet. (interview 1, Pam, February 4 2006)

I asked her to describe what she had done and the following piece of conversation shows how she had confused the email form with the bulletin board:

Pam:.... Look I’m a little bit confused about like... actually what I did... when I posted that question was that on the discussion forum?
Hedieh: it was in the website.
Pam: in the website. So I have... so that was not in the discussions.
Hedieh: no no
Pam: So that’s what I don’t get. Cause I’ve never posted messages before or stuff like that. So that’s why I ... I kinda don’t know what I’m doing. That’s what I’m asking. Because I though maybe I post it on message board but actually I have posted it on the website. I wasn’t sure what I was doing. (interview 1, Pam, February 4 2006)

When I asked these two participants how could their problems be facilitated, the mentor suggested having more time to practice using the bulletin board in the group, similar to what they did at the steering committee meeting where the study was introduced. The coordinator blamed herself for lack of computer skills but she too, believed that more practice time could be helpful:

It is just me. I .... I guess I just found it a little confusing because I’ve never done chat lines of anything like that. My only use of the internet is email, going on the internet, just research something. Or to purchase something. But as far as chat lines anything in that genre I haven’t done that so I don’t understand that. Though some kind of explanation about... I would I don’t know about anybody else. I’m not very computer savvy. But explaining that I thought would be helpful. For me in particular. (interview 1, Pam, February 4 2006)
I offered to go to her school one day and work with her to become fluent using the e-VSB Literacy. She liked the idea and decided to email me to set a suitable practice time. But she never got back to me about it.

One mentor had problems with posting her questions, or ideas in general, in a public place where other VSB members could freely see the content of her communications. She said:

I’m not comfortable with discussion forums. I’m not. I think if I want to speak to somebody, I much rather talk to them personally I don’t like the idea of writing to computer or use the computer to discuss ideas. *(interview 1, Chica, November 10 2005)*

Her problem is a personal issue and I’m not sure how she can be attracted to bulletin boards. For the time being and specifically because e-VSB Literacy is still in its infancy, there is no straightforward solution for such a problem.

**Benefits of using the bulletin board:** According to participants, perceived benefits of communicating through bulletin board could increase its use among VSB Literacy teachers. Some of these benefits were experienced by participants like one coordinator who thought the bulletin board was a safe place for asking questions because others could answer her questions at their comfort and she would not feel like she had pressed someone to provide her with an answer.

And I find it less threatening. You know not threatening but more sort of [ ] If you post something on the web you can leave it and somebody will come up with the answer. *(interview 1, Pam, February 4 2006)*

Note that this was the coordinator that had used the email form instead of the bulletin board to send her question. Aside from that mistake she had a good understanding of how the bulletin board worked.

Providing support and reassurance, too, were considered as benefits of bulletin board. One coordinator who had previous experience with bulletin boards commented:
What I see it in my program anyway, that graduate diploma, I noticed that for people who are feeling anxious they can get some reassurance. *(interview 1, Jen, February 6 2006)*

She later added:

You know in my other program people would say things that oh it was really reassuring and I knew I wasn't the only person having that problem. It was like a support network in a way. *(interview 2, Jen, April 20 2006)*

The rest of the comments about benefits of the bulletin board and why teachers might be attracted to using it came from the Literacy consultant. She referred to anonymity as one advantage of bulletin board and when I reminded her of the low level of anonymity in e-VSB Literacy, she said that the trust among VSB Literacy teachers is high and anonymity will not be an important issue:

I think the way we are using it now in a trusting environment with a lot of the things that we are saying we would be happy to say to one another any how. *(interview 1, Rachel, November 10 2006)*

She also mentioned how the bulletin board would help low status or shy teachers to be more outgoing, offering them a chance to express their opinions in a safe environment. Yet, it is impossible to judge these perceived advantages without further study.

Often time when you are sitting face to face with someone who is strongly disagreeing with you you'd be reading their eyes and they facial movement and their body movements and it might be uncomfortable to speak back. But when you are doing it online you are not reading any of that you cut all that and you're just looking at the words and that's a good thing. It gives people there is no bullying. There is no intimidation. *(interview 1, Rachel, November 10 2006)*

### 4.3.8 Using e-VSB Literacy for a purpose

In this study, participants were not required to use the resource website or the bulletin board to accomplish a specific task. The approach was to give them an almost blank canvas and see how they could figure out what to do with it. But in their interviews, participants expressed how defined, goal oriented tasks would encourage them to use the e-VSB Literacy. They also
suggested some activities for future use which ranged from replacing some of the face to face meetings with online meetings and keeping in touch with teachers when face to face communication is not feasible.

Maybe one school, like this school over here. They might be really, they are young, they are exited they wan to learn everything about literacy. They might be a really neat group to say hey, can you sign up to this discussion forum write to me what happens ,what happen, what is to learn about, what is to talk about. They are brand new to the project. So we haven’t even thought about that. I’m in that school and I worked with them. They watched me teach kids. Whole bunch of teachers watched me all morning. Now they are sitting there with ideas about what I did, how I did it, why did I do it this way and how come you did that, or that kid does not speak English yet and yet he did this. They have a lot of questions right now. And if they had the forum, if they were signed to the forum, they could talk to me about it. (interview 1, Theresa, October 25 2006)

The next suggested use for e-VSB Literacy concerned individual coordinator meetings.

Coordinators in the VSB Literacy Project take part in six meetings every school year. Some of them who have unanswered questions call a mentor and ask for an additional meeting time. She suggested:

Sometimes you have a coordinator who goes back and she calls a meeting right away. Could that meeting happen online? Could people for one day instead of having gone downtown and used gas and paid for parking and cost us all a lot of money can we all sort of stayed home, done our laundry and had a conversation on the computer. (interview 2, Theresa, May 2 2006)

Along the same line she suggested using the bulletin board to hold one of the monthly mentor meetings:

Another thing we cold use was to have one mentor meeting, instead of having it at board where we sit in a room from one to three, what if we sat at computer and tried to have our meeting online? I mean not necessarily online but tried to take an issue and talk about it through forum. (interview 2, Theresa, May 2 2006)

I also noticed a comment from the coordinator who was new to the project regarding having structures for participation in the discussion forum. She posited that teachers need to see things
projected in “black and white” to be able to use them and suggested that the bulletin board gives clues for participation:

Here is how you negotiate through it and there is an idea for one of your primary meetings or your intermediate Literacy meetings that is here. And then maybe the staff at schools will get more into it and feel more connected. At the moment it is just something that is there and I’ve opened it a couple of times but there is nothing there that I say oh god I gotta read that. (interview 2, Jen, April 20 2006)

Incentives, in the form of new articles for example, can encourage teachers to check online resources frequently. Based on her experience, one mentor suggested:

I think having goodies on a site is one way. Like when you go to a site knowing if you have access to this site, you can get all these good stuff. I don’t know. But a lot of sites like the Reading lady, you can access a lot of things without being a member of the forum. So I don’t know. That’s common practice. You know what I mean. But like a lot of sites you go to some sites there is one for teachers ABS Teach you can only access certain things if you are a member. Membership, there is a minimum cost to it. Some places you can get membership for free then you get access to certain kinds of thing. (interview 2, Wendy, April 25 2006)

In this case, teachers would use the online resource because they know every time they access it, it may have something for them. It is important, however, that these external incentives be relevant to teachers work. These options were not explored in this study but provide a vision for designing future studies.

4.3.9 Possibilities for learning

One objective of this study was to investigate the role of online technologies in teacher professional development. I suspected that the possibility for learning by engaging in e-VSB Literacy bulletin board discussions might affect participants’ willingness to use or not to use it. My intuition proved right when participants talked about their experiences with the learning situation in the bulletin board.
Participants recognized that learning could take place in the bulletin board in different forms, like when two or more people are carrying on a discussion, when they start a discussion and try to put their idea into writing, or when others read, or in a way listen to, other’s discussions without entering them. Consider these comments for example:

- What I think is beneficial for that is everyone gets access to that conversation that’s going between two people although they may never participate they may take a glimpse into the thinking. (interview 1, Wendy, November 7 2005)

- I think I got something because I was reading and thinking. And writing. So I like it from that place because it requires sort of formulated thoughts and do some writing. (interview 1, Wendy, November 7 2005)

- I think I got something because I was reading and thinking and writing. So I like it from that place because it requires sort of formulated thoughts and do some writing. (interview 2, Theresa, May 2 2006)

- I think people have questions and they want answer and these are places to deal with that for people who are looking at ideas. (interview 2, Rachel, April 19 2006)

But Lack of reciprocity bothered participants and made them doubt if anyone had used or even read their idea; i.e., if they have caused some learning. These comments demonstrate participants concern with regards to reciprocity in bulletin board:

- It totally depends on the response, right. Because if I type in and I say I’m interested in this any ideas? And nothing comes about, then no. but if things come back and we have a dialogue I would be interested. I put out 2 requests or ideas and in the third one I was responding to somebody so I gave some ideas. I have no idea if they have been used or not. (interview 1, Jen, February 2006)

- I like people to be writing to me like I like to be learning. Because the only way you can learn it is when more that one person is using it. There was nobody for me to learn with yet. So we are not, I don’t, right now, I can see the potential because the little bit that people have written back and forth I get it. (interview 1, Theresa, October 25 2005)

I should say that each participant had her own unique expectation of the amount of learning that could happen with the bulletin board. Theresa, the co-investigator, expected a lot to happen
in the bulletin board during the study. Despite the fact that she believed some learning had
happened in the bulletin board she was disappointed to see how few discussions took place:

I though we would be talking about teaching. Reading and writing. Answering questions. How do we bring people together. How do we deal with teachers who don't wanna take, do the assessment? I thought we would be talking with one another. I really thought the forum would be [tapping fast on the keyboard implying that conversations would extensive]. I thought it would take them deeper so you could ask a good question something like “how are you making sense of the assessment data in your daily practice?” And they could be stimulated and had to think about that all. (Interview 2, Theresa, May 2 2006)

In the last comment Theresa expresses her wishes for more in-depth conversations among those who used the e-VSB Literacy bulletin board which adds another dimension to the “possibility to learn” factor. Despite all participants agreeing that bulletin board could be a place to learn, they were not sure about the depth of that learning and if discussions would grow from asking questions about daily practices to more critical discussions. This is a genuine concern because one of the factors that I discussed earlier was “getting credible answers” to questions that dealt with daily practices and shows how participants perceived their use of bulletin board.

In the next section, participants’ experience with e-VSB Literacy bulletin board, I will discuss the kind of questions participants asked or would want to ask in more detail. The following reflection from a coordinator shows her concern with the quality and depth of online discussions:

In terms of real thoughtful or thought provoking dialogue, I don’t know if that’s gonna be the place. We will have to see how that works out. Cause it is interesting to chew over ideas. But probably it would be about more practical things like Joan said: how do I get my kids to talk. I said: how do I learn to talk less. They are all just practical things. Right? Everyday things. (Interview 1, Jen, February 6 2006)

These concerns imply that although the possibility to learn through bulletin board is an encouraging factor, participants’ personal experience and the extent to which those experiences comply with their expectations affects their satisfaction with the bulletin board.
One mentor pointed out that as a means for learning, the bulletin board is not for everyone:

I think for people who are at a certain place in learning and really want to keep progressing in their teaching are always asking the hard questions. I think it is really helpful. It is stimulating. It is a good thing. But it is not something for every single teacher. I think some people will just go in and read and get something from it. I think there will be a percentage that do that and there is the small percentage that put stuff in and get dialogue back and forth and I think there is gonna be a number of people that are not gonna go there. Some may not be even technology comfortable. Like some people still don’t know how to start the computer or what ever, or you know unfortunately.

(interview 2, Wendy, April 25 2006)

So, for learning in the bulletin board to be an encouraging factor, participants should first adopt this kind of conversation as learning and then be able to recognize if the online discussions satisfies their desired level of learning.

4.4 Participants experience with e-VSB Literacy bulletin board

Participants were required to check the e-VSB Literacy website and discussion forum on a weekly basis and contribute to it by posting messages or providing feedback to posted messages. I want to start this section by visualizing some of the information about participation dynamics. After that, I discuss about the content of the bulletin board including nature of questions, the nature of answers, and a comparison between what participants expected to happen in the bulletin board and what actually happened. Another thing worth mentioning is that one mentor, Lisa, did not answer my request for interview but she contributed to the bulletin board. She will be mentioned in this part of data presentation, although I have no other information about her.

4.4.1 A visual overview of the bulletin board

With a visual representation of the bulletin board, discussion topics, number of posts per each participant, and the number of discussions initiated by each participant, the reader will get a good idea of activities of bulletin board.
As Figure 4.1 shows, the e-VSB Literacy bulletin board was divided into 5 forums. For the purpose of this study I only considered contents of the “Grades k-3 Discussions” forum.

Figure 4.1 List of forums in the e-VSB Literacy bulletin board

During the study, participants initiated 18 discussion topics in the Grade K-3 Discussions forum. I consider 15 of them for analysis because the other three were posted by people who opted not to continue with the study. A snapshot of these topics is shown in Figure 4.2 (I have erased the three unused topic and all names from this page).
### Grades K-3 Discussions

**Users browsing this forum:** None

**Moderators:**

- VSB Literacy Project Forum Index -> Grades K-3 Discussions

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</tr>
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<td>3. Are YOU talking less? Is shorter sentence slower?</td>
<td>21</td>
<td>Sun Feb 05, 2006 8:49 pm</td>
<td></td>
</tr>
<tr>
<td>4. Animal reports - helpful/harmful/neutral</td>
<td>13</td>
<td>Sun Feb 05, 2006 6:34 am</td>
<td></td>
</tr>
<tr>
<td>5. 2nd Lang. Learners...</td>
<td>9</td>
<td>Thu Feb 02, 2006 8:53 am</td>
<td></td>
</tr>
<tr>
<td>6. Planners in Grades 1 and 2</td>
<td>15</td>
<td>Wed Jan 25, 2006 11:44 am</td>
<td></td>
</tr>
<tr>
<td>7. ESL/Literacy/oral language</td>
<td>16</td>
<td>Sat Dec 10, 2005 9:56 am</td>
<td></td>
</tr>
<tr>
<td>8. Platooning and uninterrupted Teaching Time</td>
<td>18</td>
<td>Wed Nov 09, 2005 10:26 am</td>
<td></td>
</tr>
<tr>
<td>10. Achievement Focus counter-productive</td>
<td>12</td>
<td>Tue Oct 04, 2005 3:25 pm</td>
<td></td>
</tr>
<tr>
<td>11. Mentors and teachers and administrators</td>
<td>20</td>
<td>Tue Oct 04, 2005 3:25 pm</td>
<td></td>
</tr>
<tr>
<td>12. questions about Nonfiction writing</td>
<td>30</td>
<td>Tue Sep 20, 2005 9:35 am</td>
<td></td>
</tr>
<tr>
<td>13. 5th Grade</td>
<td>22</td>
<td>Tue Sep 20, 2005 9:32 am</td>
<td></td>
</tr>
</tbody>
</table>

**New posts**
- No new posts
- Announcement
- No new posts
- Popular
- Sticks
- No new posts
- Locked

Jump to: Select a forum

- You can post new topics in this forum.
- You can reply to topics in this forum.
- You can edit your posts in this forum.
- You can vote in polls in this forum.
- You can attach files in this forum.
- You can download files in this forum.

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All times are GMT - 7 hours

Page 1 of 1

VSB Literacy Project Forum Index -> Grades K-3 Discussions

You have no new messages

Log out

Reading mode

VSB Literacy Project

- FAQ
- Search
- Memberlist
- Usergroups
- Profile
- You have no new messages
- Log out
Table 4.1 contains information about discussion topics, author of the topic and her role in the VSB Literacy Project, and number of replies each discussion topic received in the Grade K-3 discussions forum. I have also included the message that was sent to e-VSB Literacy email form by mistake. This message is distinguished by a star.

Table 4.1 Discussion topics in the Grade K-3 Discussions forum

<table>
<thead>
<tr>
<th>Discussion Topic</th>
<th>Author</th>
<th>Number of replies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kindergarten time for play? Time for work?</td>
<td>Theresa/mentor</td>
<td>2</td>
</tr>
<tr>
<td>Benefits of a discussion forum</td>
<td>Theresa/mentor</td>
<td>2</td>
</tr>
<tr>
<td>Eco Literacy</td>
<td>Theresa/mentor</td>
<td>5</td>
</tr>
<tr>
<td>Questions about Nonfiction writing</td>
<td>Wendy/mentor</td>
<td>5</td>
</tr>
<tr>
<td>Mentors and teachers and administrators</td>
<td>Theresa/mentor</td>
<td>0</td>
</tr>
<tr>
<td>Achievement focus counter-productive</td>
<td>Theresa/mentor</td>
<td>1</td>
</tr>
<tr>
<td>The 5 year itch!</td>
<td>Theresa/mentor</td>
<td>1</td>
</tr>
<tr>
<td>Platooning and uninterrupted teaching time</td>
<td>Theresa/mentor</td>
<td>1</td>
</tr>
<tr>
<td>ESL/Literacy/oral language</td>
<td>Theresa/mentor</td>
<td>1</td>
</tr>
<tr>
<td>Planners in Grade 1 and 2</td>
<td>Theresa/mentor</td>
<td>2</td>
</tr>
<tr>
<td>2nd lan. learners</td>
<td>Theresa/mentor</td>
<td>0</td>
</tr>
<tr>
<td>Animal reports-helpful/harmful/neutral?</td>
<td>Jen/coordinator</td>
<td>1</td>
</tr>
<tr>
<td>Are you talking less? In shorter sentences? Slower?</td>
<td>Jen/coordinator</td>
<td>3</td>
</tr>
<tr>
<td>Mentoring matters</td>
<td>Theresa/mentor</td>
<td>0</td>
</tr>
<tr>
<td>ProD online</td>
<td>Theresa/mentor</td>
<td>0</td>
</tr>
<tr>
<td>*Grade One Quick Scales for November for writing from experience</td>
<td>Pam/coordinator</td>
<td>1</td>
</tr>
</tbody>
</table>
I have also considered Pam’s question, submitted through email instead of bulletin board, as a topic. If she entered her question in the bulletin board, she would have received more responses. Likewise, if she also read other topics she would have contributed more to discussions. I don't make any prediction but I want the reader to keep this limitation in mind.

Depending on their commitment to participation, the teachers’ interest in using the bulletin board, their belief in the bulletin board for providing learning opportunities, and their available time, the quantity of participants’ contribution to the bulletin board differed from one person to the other.

Figure 4.3 shows each participant’s contribution as a portion of 39 messages posted to the bulletin board. As the diagram shows, more than half of the messages posted to bulletin board belong to Theresa, the mentor who was also involved in the larger study as a co-investigator. As she mentioned in her interviews, she held herself responsible for keeping the discussions active to fulfill her time commitment to the study. The next person with highest number of posts is Wendy, who was interested in learning with the bulletin board and was internally motivated. It is also interesting that she put 5 questions in the forum before the study even started. These questions were initial guides and discussions starters.
The same trend was true for the number of discussion topics initiated by each participant. As shown in figure 4.4, again Theresa had started the highest number of topics, 12 from 16, emphasizing the level of commitment to e-VSB Literacy and the activity level of participants.

Next, I will discuss contents of the discussion topics in terms of the theme of the discussion topics and nature of answers or reflections they received.
4.4.2 Theme of the discussion topics

I studied all messages posted to bulletin board to gain an insight into their nature. The discussion topics could be divided into three major categories concerning classroom-practice, professional concerns, and technology related issues. By classroom-practice I mean those topics that were related to the participant’s daily teaching practice. The second category consists of reflections on professional issues which are not directly related to classroom practice. The last category represents discussion topics that had to do with the role of technology in VSB Literacy Project. Below I discuss each category separately with supporting examples.

4.4.2.1 Related to daily practice

Topics that fitted into this category dealt with practical concerns about balancing young children’s study and play time during school day, inquiry into a newly adopted teaching methods
and asking for information, English as a second language (ESL) students issues, asking for advice on a classroom tool, taking present practice on writing one step higher, students ability to conduct research, and the teacher’s verbal presence in the classroom.

Through these topics, participants shared a new avenue they were exploring or asked for advice to enhance what they were already doing in their classrooms. These postings always finished with a question, either for reflection and feedback or for an answer. This group contained more than half of the discussion topics (9 out of 16) and both mentors and coordinators made contributions to it. Being related to the teacher’s daily practice and probably providing answers to burning questions, it is no wonder this category contains the highest number of postings in it.

Consider how this mentor asked for guidance on a new practice she was going to explore:

I’m entering into a new direction for the year ahead which is eco-literacy. Would anyone have any information on this? (Theresa, e-VSB Literacy bulletin board, Grades K-3 Discussions, Eco Literacy)

Or the following message in which a mentor shares a problem she had faced:

How do we begin to go beyond animal reports and descriptive writing in our classrooms? How do intermediate teachers teach writing? What amount of time is given to the instruction of writing? How do we avoid the trap of assigning projects and assuming the students can produce the writing? I see the challenge is in moving beyond simple one-off activities or lessons and beginning to explicitly teach the language features and forms of different nonfiction genres (persuasive writing, biography, scientific explanations, instructional writing, etc). (Wendy, e-VSB Literacy bulletin board, Grades K-3 Discussions, Questions about non-fiction writing)

4.4.2.2 Professional concerns

All discussion topics of this category were submitted by one mentor, Theresa, and were concerned with redefinition of the mentors’ role in VSB Literacy Project, worries about those schools that would finish their fifth year in the VSB Literacy Project and would not receive more support from the project, effect of practice on one’s understanding of the teaching profession,
and inquiry into VSB Literacy Project collaboration with administrators and teachers who had recently joined the project.

A common theme of this group was reconsidering the VSB Literacy project and looking for new ways for dealing with problems. All the answers to these questions were provided by other mentors. As an example, I quote one the topics in this category:

How do we support teachers new to the project and administrators who may have a very conservative notion of how this project functions? How do we continue to share the reality that this project is teacher initiated...teacher grown...teacher driven and teacher supported? How do we as mentors not get drawn into administrations 'take' on how the teachers are making sense of this new initiative in their school culture? what are the ways mentors are supporting administrators to come alongside this initiative and create a culture of inquiry? this continues to be an essential element for mentoring and would be worthy of thoughts and contemplations and possible openings and directions to encourage continued understandings...}. (Theresa, e-VSB Literacy bulletin board, Grades K-3 Discussions, Mentors and teachers and administrators)

4.4.2.3 Technology related

With two messages both posted by Theresa, this category contains the least number of discussion topics. These messages ask readers to think about how they can use online technologies in their profession. One is an invitation to other participants to contribute to the online discussions and the other asks participants to share their experiences with other online resources:

- This way of using our new technologies continues to interest me and I'm wondering what sorts of online sites others may be using? What are you discovering? Are you using the learning from online stuff in your daily practise? How do we know which sites to share and celebrate? Thoughts and wonderings? J. (Theresa, e-VSB Literacy bulletin board, Grades K-3 Discussions, ProD online...)

- As you begin supporting this new direction for Our fabulous Literacy Project...would you keep in mind a couple of things which will help this project as we enter into our second stage. Ahhh...first stage is just having each of you begin using this medium in your weekly practice. We would like you to begin by checking into this site once or twice a week participating as a member of an on line discussion group. Please feel free to post your thoughts/wonderings/worries/confusions/ freely as this will be the
beginsnings of our assessment of this tool. Thanks so much, j. *(Theresa, e-VSB Literacy bulletin board, Grades K-3 Discussions, Benefits of a discussion Forum)*

Based on what participants indicated as their high priority concerns, messages in this category would be the least important for busy teachers.

### 4.4.3 Nature of answers

I should elaborate on the activity level of participants in the bulletin board before exploring the themes of the discussions. There was two active participation periods in the bulletin board, one was right before the strike and right after that until the first third of November 2005, and the other was in late January and early February 2006. Even in those periods the most responses a message got were 5. So the reader should bear in mind that some of the themes I recognized in the bulletin board had only one example due to scarce participation. Two themes were more popular: sharing personal practice/experience and giving hints.

#### 4.4.3.1 Sharing personal practice/experience

In response to most inquiries, participants shared their own experience without imposing their ideas on others. Their objective seems to be informing each other of strategies they use to address a specific issue and then usually asking for feedback. This kind of response was not limited to the mentors. One coordinator, who used the bulletin board, shared her perspectives and practices as well. Here is part of a conversation between a coordinator and mentor where each of them talks about her own experience with an issue:

- I loved what Carmel Crevola had to say yesterday. So I told the class this morning, "I learned something yesterday, that teachers talk in sentences that are too long. Have you noticed?" A resounding "YES!" "I also learned that I talk too much. Is that true?" A sincere, "YES". So, all day I tried very hard not to say so much. It really forced me to think what my point was, and get to it. Exactly what I always ask the students to do. It was hard! I also planned a day with LOTS of directed student talk. All very successful. They loved it. Tomorrow I will tell them to give me a signal if I'm going
on too long. And I will tell them of the third thing I learned, that I probably speak too fast. I've got my work cut out for me! Has anyone else tried using less air space? Any suggestions? (Jen, e-VSB Literacy bulletin board, Grades K-3 Discussions, Are YOU talking less? In shorter sentences? Slower?)

- Great stuff by Carmel...her research data reminded me of how critical oral lang. is so the next day while teaching a Gr.1 class I just created the conditions for the kids to talk...in my own class I have a rule based on their ages...If I teach 5 yr. olds...i can talk for only 4 minutes then its their turn...6 yr olds...i have 5 mins. to teach and for 7 yr. olds I have 6 mins. we include using the clock and my students hold me accountable to the minutes...truly makes a difference and increases my chances of engaged learning...now...how do we create oral lang. experiences with the amazing ESL population? Any ideas? (Theresa, e-VSB Literacy bulletin board, Grades K-3 Discussions, Are YOU talking less? In shorter sentences? Slower?)

4.4.3.2 Giving hints

I did not find a message that contained direct advice in the pool of messages except for one that a coordinator asked, through email, and the answer required a “how to do” directing response. Instead, participants provided hints and suggested things that could be done. However, I did not find a message where a participant, who asked for the hints and received them, had used the hints and later reflected on them. This is again except for the message sent by email. The coordinator who had sent that letter, found the answer very practical. Here is a pair of messages where the respondent provided some hints and suggestions.

- One of my continual struggles is how to balance the demands for printing/reading and writing with the demands for constructive play for 5 year olds. How can 1/2 day K balance both the intentions of early literacy and the developmental needs of this age group? (Theresa, e-VSB Literacy bulletin board, Grades K-3 Discussions, Kindergarten time for play? time for work?)

- After lots of reading, practicing and talking with teachers, I've come to the conclusion that play is the work of the 5-year-old and we don't need to make a choice between developing literacy "skills" and play. I think a good kindergarten teacher makes literacy learning playful all the time. Our job as teachers is to be observant of student behaviour as they interact (play) with literacy materials and always try to nudge a student from wherever they are to next step. Also, we should be regularly bringing new literacy information to kids' awareness through our mini-lessons (interactive reading and writing, language games, etc.) (Lisa, e-VSB Literacy bulletin board, Grades K-3 Discussions, Kindergarten time for play? time for work?)
4.4.3.3 Asking more questions to solicit response

Most of the posted messages ended with a question like “any thoughts?” or “any ideas?” The first post of each discussion is expected to finish with such questions. But I noticed these questions would recur in other messages too. I think participants show their openness to each other’s opinions by asking them to provide feedback or to complement them on what they have said. It seems that adding an inquiry phrase at the end of a message increases its chance of being answered. Consider this message, which was the 5th message in a discussion topic:

Not sure yet how to define this ... last year I took my students for a day on Galiano Island where we learned about marine life by the Galiano Conservancy Society. The images, thoughts and moments of learning were fantastic. Sealife was rich and the students gained something that was way beyond just beach walking. I'm still not sure what it will mean...for me right now, one of the lessons I'm teaching is that I will be trying hard not to use the zerox...our practising happens on the mini chalkboards, erase boards and the overheads...this leads to parent education who like to have the gallons of white worksheets to show the work. I think eco literacy is also about educ. the kids on the Smart Car and Hybrids that are now happening. Anyhow, any thoughts? (Theresa, e-VSB Literacy bulletin board, Grades K-3 Discussions, Eco Literacy)

4.4.3.4 Making an argument

Only one message contained a slight conflict of ideas. The message dealt with those schools that have finished their first five years and the writer was concerned if those schools would continue to practice according to VSB Literacy Project strategies, specifically with regards to assessment. In her response, the Literacy consultant argued that only those teachers who did not believe in the value of continuous assessment might return to their original way of teaching.

I found this specific conversation interesting and worthy of consideration. In the interviews one coordinator expressed her worries about her school staff who were somewhat tired of the additional burdens of VSB Literacy Project. That coordinator, unfortunately, never used the discussion forum so I have no idea if she would share her experience in this discussion topic.
• What sorts of thoughts are folks having regarding the 5 Year itch (that's what I'll call it...) I'm thinking about the teams of teachers who are just counting the days when the 5th year of the project is done so they can just stop all this DRA'ing stuff/small group instruction/school wide writes etc and get back to their old ways of teaching... What are we (Central Office Staff Developers) doing about this? (Theresa, e-VSB Literacy bulletin board, Grades K-3 Discussions, The 5 year itch!)

• I'm wondering if people who are expressing concerns re having put in their time, have ever really bought into the goals and beliefs of the Literacy Project. For most teachers who buy into it, they could never go back to the way "it used to be", nor can they remember what that was like. Using assessment to guide your practice becomes a part of your heart and soul and it's very difficult to imagine what kind of a teacher I might be without being actively engaged in discovering what my students can do and what I need to teach them. I found my students loved to participate in ongoing assessments and would ask me to schedule time as they were so "proud" to show what they know. It's very sad to think some people miss out on this valuable part of making our instruction fit students' needs. (Rachel, e-VSB Literacy bulletin board, Grades K-3 Discussions, The 5 year itch!)

4.4.3.5 Making connection to other discussion topics

Issue of non-fiction writing first appeared in the bulletin board as a new discussion topic.

But later, the mentor who had initiated that topic referred to it in another discussion topic related to eco-literacy and connected it to non-fiction writing:

here I go again about nonfiction. But I see a great connection between what you are talking about and information literacy. Can you imagine students learning about the Smart cars or Hybrids and then writing a persuasive letter to someone to convince them of the reasons why they should be choosing to drive one? There are endless possibilities for connecting literacy with other curriculum areas in ways that enhance the students' understanding of concepts such as caring for the earth. (Wendy, e-VSB Literacy bulletin board, Grades K-3 Discussions, Eco Literacy)

When opening a new discussion topic, a coordinator also connected to non-fiction writing:

Hello, My first post! I'll start off with a question that has been hanging about the fringes of my thinking for some years now. It seems pretty typical to have Grade 3 students conduct research (yes, typically about animals, Carla) by reading, note-taking, sorting into categories, and writing. Having tried this many different ways I wonder how useful it is. It always leaves some students completely out of the loop - they exhaust me because they need so much 1:1 help. An even bigger question I have is, does note taking and/or finding key words make sense for students who can't even write a sentence properly much of the time? I can thank Carla for opening my eyes to the various types of non-
fiction so I can see that the animal report is just one of many, many possibilities. Still, I
do wonder if the animal report should even be in the mix. Are there ways to achieve
reports that make more sense? Should I forget about it all together? Any thoughts or
suggestions? (Jen, e-VSB Literacy bulletin board, Grades K-3 Discussions, Animal
reports - helpful/harmful/neutral?)

This was the only instance when one idea where participants made connections between
discussion topics.

4.4.3.6 Offering help

Most of the messages posted in e-VSB Literacy bulletin board fit into the category of sharing
experience and providing hints. On one occasion, however, a coordinator offered to provide
information about a book to anyone who was interested. She started to use the bulletin board
when only two other people kept checking it and those two people were probably not interested
in the issue because she did not receive any requests. I wonder if more people were using the
bulletin board, if someone would have asked her to provide more information. Here is a part of
her message:

A strategy called "Think of a Time 1-2-3" from the book Tomorrow's Classroom Today
by Close, Wingren, and Brownlie. This is a little more involved but most schools have
the book. If not, and if anyone is interested I can certainly describe it. (Jen, e-VSB
Literacy bulletin board, Grades K-3 Discussions, Are YOU talking less? In shorter
sentences? Slower?)

4.4.4 Expected and actual use of the bulletin board

The e-VSB Literacy was the first chance for VSB Literacy mentors and coordinators to use
an online medium rather than email to be in contact with each other. In a previous part of this
chapter, "getting credible answers" was identified as a motivator to use e-VSB Literacy and
specifically the bulletin board. So I asked participants to suggest some of the issues they would
like to talk about within the bulletin board. On the other hand, "relevance to teachers' work" was
another factor impacting active participation in e-VSB Literacy. It would make sense if all
questions that these participants wanted to ask revolved around classroom issues. Here is what two coordinators suggested as topics they would be interested in. However, they were not only asking for advice; on some occasions they wanted to share their thoughts and ask for other people’s reflections:

- ... I’m interested to know also what does research say about this or that. Like spelling. What does research say about spelling instruction? I hear people say it makes very little difference. And that makes sense. It matches what I see. The good spellers stay good. The bad spellers remain poor. Regardless of the teaching. But I’d like to know what research says... How do you get kids more engaged. How do we help the kids who are struggling the most? But they are all just ordinary questions. (interview 1, Jen, February 6 2006)

- So many of my questions revolve in that framework. How to help kids have a better set of cognitive tools to monitor their own learning. (interview 1, Jen, February 6 2006)

- I do have questions from time to time about the actual assessment materials. How to use them and how to interpret their results. So stuff like that. Stuff directly related to early literacy project is very valuable to have that kind of question and answer. (interview 1, Pam, February 4 2006)

The Literacy consultant also suggested some topics to be discussed in the bulletin board:

- Numerous [questions] around literacy numerous... for example, how often should we be doing running records? Should we be doing running records, do we have to do running records? What do they have to look like? Why do we have to collect the data? Who looks at the data? What it is telling us? Why do we have to work in small groups? What’s the benefit of that? All kinds of questions around all the literacy things we do come out. (interview 1, Rachel, November 10 2005)

Participants sent questions to the discussion forum for two purposes: to raise an issue that they really wanted to talk about and to post a question to make everyone think about the issue. An example for the latter would be the questions Theresa, the co-investigator, posted to the discussion forum. Although some of the questions she asked had a personal relevance for her, her goal was to motivate people to start talking about the issue.
For those participants who sent in questions because their questions were burning issues, online discussions through the bulletin board were meaningful. Although not all participants provided a detailed account of their online experience, those who did believed that some learning took place. In terms of what actually happened in the bulletin board, I draw on two participants experience with their online discussions.

Jen, a coordinator, started posting questions right after she registered in the bulletin board. She said:

I'd better put something out there. And they were a little provocative, some of them, to see if anyone would respond. (interview 2, Jen, April 2006)

Her two questions were answered or reflected upon by two mentors, she got a response but she did not reflect on them if the response made sense to her or not:

I went on 3 times last week and posted 3 times. Just to see... I got a response. Or was it a new question that I answered? [pause] no I did get a response. Ya. That was just ... it was not an answer no. it was more questions. (interview 1, Jen, February 6 2006)

The most positive experience with online discussions belonged to a mentor who managed to maintain a dialogue with another mentor about an issue she was concerned with. She commented:

- I did post however, I did post a non-fiction one. It was you know we were playing around that day and it was something I've been working on and pursuing so, it is something I've been trying out, new lessons working with other school on it a lot using it in my classroom. So it was meaningful to me that way I guess. (interview 1, Wendy, November 7 2006)

- one conversation Theresa and I were having was about non fiction and this notion of a little bit of what I'm struggling with is how intermediate teachers and in general because I don't want to say there are teachers don't do this but in general there is a notion that kids learn to read in primary and read to learn in intermediate and there is the same thing with writing. So the shift from how to do some certain kinds of writing and how to certain kinds of reading goes into here you go, do this, read this way, write this way, but they are no longer being taught. So, that was some of the stuff I was struggling with and finding out what's been out there and I guess it is where I'm... it getting some questions answered that for me is a
meaningful conversation some one nudging me to think of something in a new way maybe. (interview 1, Wendy, November 7 2006)

4.5 Conclusion

Findings of this study are not surprising when compared to the existing literature. At this time, adding an online dimension the VSB Literacy Project is not a vital need or priority for its members. If I consider the two major components of the e-VSB Literacy, participants were more positive about the resource website because it increased accessibility to materials anywhere anytime. But the bulletin board was not favored in the same way. Logging on to it for professional communications was a strange idea which took a lot of time and was not that productive.

Nevertheless, there were instances of meaningful dialogues in the bulletin board. I think the following discussion between two mentors is a good sample:

Wendy: How do we begin to go beyond animal reports and descriptive writing in our classrooms? How do intermediate teachers teach writing? What amount of time is given to the instruction of writing? How do we avoid the trap of assigning projects and assuming the students can produce the writing? I see the challenge is in moving beyond simple one-off activities or lessons and beginning to explicitly teach the language features and forms of different nonfiction genres (persuasive writing, biography, scientific explanations, instructional writing, etc).

Theresa: Hi Wendy, Your message is filled with the constant struggles I believe all teachers face. It is what makes the work fantastic and frustrating. I wonder if its about going back to the place of what Teacher believes which drives their practice. I often watch teachers who believe providing the opening prompting sentence for journal writing is the right thing to do and I am not a believer in this. My beliefs are connected to the teaching of writing from the inside out...my passion is my passion...i wish to respect a childs individual passions. Tough call with the curriculum guides ...

Wendy: I love your sentence about writing about what you are passionate about...I believe that this is the key. We need to tap into what our students are passionate about to get great writing from them. In reading about, thinking about, and experimenting with nonfiction writing in the classroom, I am coming to realize that the response of all students to nonfiction writing is immediate. My passion for exploring best practices in writing continues to unfold...I am excited about the direction I am moving in!

Theresa: So as you say your finding your own passion for teaching with the nonfiction and you
like the direction you're going in can you describe a bit more about what you mean by these directions? What sorts of stuff is beginning to take form in your room this year, Wendy?

Wendy: I have begun the year by looking at instructional text. It links nicely with our nutrition unit that we are doing. So, I have been following the Tony Stead format of introducing the genre, reading examples, taking an assessment sample from the kids. Now I have information about what they need to learn so I can plan some mini-lessons. We are going to write a group recipe for making smoothies first. Then I will have students apply what they have learned and write an individual piece. I do notice a lot more writing happening early on than in previous years. The power of nonfiction!!!!

Theresa: What does this say then about ALL the emphasis for sooooo many years on personal/narrative writing? Have we been completely missing the boat? If so how did we get so far off track and how can we begin to support teachers to adventure into the world of nonfiction? I LOVE the idea of nutrition/nonfiction and recipe writing...I've still got WAY too much going on in my classroom...I'm into personal narrative for journalling/Writers Alive for Writers Workshop and we're doing a mini unit on SPACE community...how to teach me how to do less and create more...any thoughts? 😊

(e-VSB Literacy bulletin board, Grades K-3 Discussions, Questions about nonfiction writing)

This online dialogue is significant because it was initiated based on a real need. By referring to it as a “conversation”, Wendy showed that it is possible to talk online about professional issues within the VSB Literacy project. I think it is not important if a conversation is finished within two or three messages. The more important thing is that teachers find this new media, the bulletin board, as a context where professional talks can be initiated. Those participants in the study who took the time to use bulletin board meaningfully, could learn something but they were not sure if it was cost effective.
CHAPTER V: Conclusion and Discussion

In the last chapter I presented participants' perception of the needs that e-VSB Literacy is supposed to meet. I also discussed factors that influenced participants' use of e-VSB Literacy as an online extension to the VSB Literacy Project. Finally, I looked into their use of e-VSB Literacy bulletin board and discussed how participants used it for professional talks. In this chapter I will review the findings in the light of the research questions, make practical recommendations for future versions of e-VSB Literacy as a web-supported professional community, and propose avenues for further research.

5.1 Summary of the findings and conclusion

This study explored the potential for the development of a web-supported component to the existing VSB Literacy Project and was guided by a main question followed by three sub-questions that elaborated on it. Below, I provide insight into each sub-question and then discuss the main question.

5.1.1 Participant's perceived need for e-VSB

My first question explored participants' perception of the importance of ICT (Internet resources and online communication tools in specific) in promoting TPD. However, as I became immersed in data collection and spent more time with participants, I realized that there was more to the adoption of e-VSB Literacy by participants than their idea about how important it was to use ICT in TPD. The fundamental factor in introducing an online component to the Literacy Project was if members felt the need for such an extension and if their needs converged to a
unified focus. Therefore, here I expand my first question and consider the need for e-VSB Literacy as a practical and relevant instance of ICT use in participants’ TPD.

Participants did not express a strong sense of reliance on ICT for their TPD. Major use of ICT included referring to the online websites that provided resources for teachers, e.g., lesson plans or articles. Instances of ICT use with regards to Muscella and DiMauro’s (1995) proposed benefits of online networks for TPD was rare especially with regards to reflective discussions. Some of the participants mentioned communicating with colleagues using email as the only online communication tool they had experienced. Even for the one participant who had once used a bulletin board to ask a question, the experience was not satisfactory concerning the quality of the response she received.

This subgroup of the VSB Literacy Project did not perceive a significant role for ICT in their TPD. None of them expressed a reliance on ICT for that purpose and likewise, there was no comment on how their TPD would be different if they did not have access to ICT. Furthermore, in their previous experiences, there was a tendency to use ICT to “search” and “ask” and not to “add” and “respond”.

With this neutral attitude toward the benefits of ICT for TPD, it would be surprising to hear participants expressing a significant need for e-VSB Literacy. In fact, there was no consensus on either if e-VSB Literacy is needed or on what are the needs that e-VSB Literacy can meet. Some of the participants even mentioned that e-VSB Literacy will not affect their professional development.

Participants suggested a series of situations where e-VSB Literacy could potentially be helpful including optimal use of mentoring resources, giving teachers an opportunity to connect to each other and become less isolated, saving time in communication with colleagues,
facilitating teacher’s access to resources, and facilitating the growth of the VSB Literacy Project. The perceived benefits of e-VSB Literacy closely resemble Zhao and Rop (2001) and Barnett (2002) lists of claimed achievements for web-supported TPD communities and also with Schlager and Fusco (2004) and Reynolds (2001) claimed potential of TI and ILF. Yet, none of the above was a significant need in the VSB Literacy Project. The reason was that participants indicated that they could still do their job, with respect to mentoring and coordinating responsibilities, without having to rely on an online component.

Related to the above is the fact that e-VSB Literacy, like many other similar initiatives is a joint effort between a university, the University of British Columbia in this case, and Vancouver School District (Fusco, Gchlbach, & Schlager, 2000; Klecka, Clift, & Thomas, 2002; Reynolds, Treahy, Chao, & Barab, 2001; Zhao & Rop, 2001). Based on my understanding from the data, only one of the mentors was involved in proposing this initiative and others did not have a clear idea about it and how it might be implemented. Although a team consisting of university professors and VSB Literacy members worked on the initiative, the idea had not gone beyond these involved members. Participants of this study had a problem identifying with e-VSB Literacy. They were also worried that after this study finished the university might not continue to support the e-VSB Literacy and consequently it would come to an end. Zhao and Rop (2001) had warned about such problems before.

Summing up, participants’ minimum reliance on online technologies for TPD, lack of a unanimously identified need for an online component for VSB Literacy, and their hesitation about the permanence of initiative, prevented them from assuming a significant role for e-VSB Literacy in their professional development.
5.1.2 Factors impacting participation in e-VSB Literacy

With respect to the factors that impacted participation in the e-VSB Literacy bulletin board, findings of this study confirmed the results of existing literature. I identified a collection of interrelated factors that affected participants’ participation. These factors include:

- Time for participation (Fusco et al., 2000; Johnson, 2001; Klecka et al., 2005; Klecka, Clift, & Cheng, 2005; Preece, Nonnecke, & Andrews, 2004/3; Schlager, et al., 2003);
- Relevance of content (Barab, MaKinster, & Scheckler, 2004; Barnett, 2002; Barnett, 2002; Zhao & Rop, 2001; Zhao & Rop, 2001);
- Commitment to the initiative (Klecka et al., 2002; Klecka et al., 2005; Kling & Courtright, 2004);
- Socio-technical issues (Barab, et al., 2001; Barab et al., 2004; Barnett, 2002; Fusco et al., 2000; Johnson, 2001; Klecka et al., 2005; Kling & Courtright, 2004; Preece et al., 2004/3; Schlager et al., 2002; Schlager, Fusco, & Schank, 2002; Zhao & Rop, 2001);
- Purpose of use (Fusco et al., 2000; Klecka et al., 2002; Klecka et al., 2005);
- Access to credible answers (Barab et al., 2001; Johnson, 2001; Preece et al., 2004/3; Schlager et al., 2003);
- Expected sustainability of discussions (Barab et al., 2001; Klecka, 2003);
- Possibilities to learn (Barab et al., 2001); and
- Effect of external events.

Most of these factors have been mentioned in the existing literature and there were also a couple of issues that were exclusive to the e-VSB Literacy. However, because of the context, the specific group of participants, and the technological infrastructure of the e-VSB Literacy these factors had slightly different characteristics than reported in previous research.
The important thing is the reciprocal effect of these factors on each other and on the participation level. In this section I have tried to demonstrate the significance of each factor in the e-VSB Literacy context and then show the connections among the factors. It is difficult to categorize these factors as two sets of impeding and facilitating factors. As the discussion below shows contextual conditions affect the way each factor impacts participation.

Before discussing the facilitating/impeding factors, I should note that the reader might find strong connections between the significance of the need for e-VSB Literacy project and the factors I have identified as impacting on participation in e-VSB literacy (Barnett, 2002; Zhao & Rop, 2001). I acknowledge that existence or absence of a perceived need deeply affects the adoption of any innovation (Fullan, 2001). I have deliberately separated the “need” factor from the rest to be able to look at other facilitating or impeding factors independently.

*Time for participation:* Time needed for participation in the e-VSB bulletin board was the most significant impeding factor. Participants expressed being pressed for time and having difficulty freeing up a space to log into the e-VSB Literacy bulletin board. Yet, there is no guarantee that if people had more time that they would be more active in e-VSB Literacy. The time factor was also affected by other factors as I will discuss in the following paragraphs.

*Relevance of content:* Relevance of e-VSB Literacy discussion topics to participants directly affected how much time participants would spend on them. Participants decided about the relevance of discussion topics and the website soon after they were introduced to e-VSB Literacy, meaning that if they did not relate to the existing content there was little chance they would return. Another aspect of this factor was relevance to “who”. This group of participants was well connected by email or they saw each other face to face frequently so that they did not see a significant use for e-VSB bulletin board. But there might be other groups of VSB Literacy
teachers who need this method of communication. Therefore relevance could either enhance or
discourage participation. In the case of current version of e-VSB Literacy this factor had more
negative or neutral effects than positive.

**Getting credible answers:** Connected to the relevance factor, was getting credible answers to
the questions. Participants would be encouraged to use the bulletin board if they were sure about
the quality of discussions. Participants also mentioned two criteria for assessing the quality of
answers as being (a) personal professional judgment; and (b) knowledge about the responder.
Both relevnce and getting credible answers would affect the time participants spend in e-VSB
Literacy.

**Purpose of use:** Logging onto the e-VSB Literacy discussion forum and starting or engaging
in discussions without a focus proved frustrating. Participants preferred to have a reason for their
use of the bulletin board. Form the findings of this study, merely exerting participation
requirements- e.g., requiring them to log on once a week- would do little to attract them to the
forum. They would be more encouraged to use the bulletin board if they had to do something
related to the VSB Literacy systematic activities. Having clear guidelines for what is possible to
be done in the bulletin board would also increase participation.

**Opportunities for learning:** Participants believed that the bulletin board offered possibilities
to learn, either by posting a message, answering it, or even reading what others had contributed.
However, they also mentioned two preconditions: (a) being able or having the commitment to
learn through online discussions; and (b) existence of critical discussion that go beyond question
and answers about technical issues in the VSB Literacy Project.

**Active discussions:** A discouraging factor for participations in e-VSB Literacy bulletin board
was its lack of liveliness. Those participants, who really wanted to give it a try, gave up after
they did not see any new discussion started or new ideas presented in the bulletin board. Given a specific purpose these discussions would cause more activity and would keep interested participants active.

Commitment to participation: Lack of commitment to contributing to the e-VSB Literacy website and discussion forum severely affected participation in a negative way. I posit that VSB Literacy Project mentors and coordinators had little commitment to the e-VSB Literacy in terms of leadership and advocacy (Barab et al., 2001; Schlager & Fusco, 2004). Even the mentor who was involved in the "Going Online with VSB Literacy Project" as a co-investigator and who was the advocate for e-VSB Literacy did not commit herself to lead the discussions and encourage participation throughout the study period. Some participants who were curious about the initiative in the beginning lost their interest after a time. It is interesting to see that these two last factors resonated each other.

Socio-technical issues: Facing technological problems with regards to initiating and engaging in e-VSB Literacy discussions discouraged but did not prohibit participants from contributing. Yet, perceived benefits of the employed technology, bulletin board, did not increase participation. It is possible that other factors like commitment, relevance, and liveliness of discussions prevented participants from exploring the perceived advantages of e-VSB Literacy. On the other hand, participants could easily articulate their problems with the technological infrastructure of e-VSB Literacy and how those problems prevented them from using the discussion forum as much as they desired. For some participants this was their first experience with a bulletin board and they were not confident in using it. However, these participants did not see their technological incompetence as a big obstacle. If e-VSB Literacy was relevant to their
work and if they were committed to the e-VSB Literacy, they would learn how to use it similar to the way they had learned to use email in early times.

The other dimension of socio-technical issues was one comment from a mentor who did not like to express herself in a medium that would keep a written record of her contributions. For other mentors, lack of trust (Klecka et al., 2005; Klecka, 2003) was not an impeding factor.

*Industrial strike:* The last social factor that impacted participation in the e-VSB Literacy was the unexpected nearly three-week strike right at the beginning of the study. Because all educational activities were postponed for three weeks, e-VSB Literacy lost its priority in participants’ professional agenda. Findings of this study with regards to participants commitment and the time they spent on e-VSB Literacy could be different had the job action not happened. As an external factor, job action was out of the study’s control and severely affected every aspect of the study and e-VSB Literacy.

Different factors, each with different intensities, affected participants’ level of contribution to e-VSB Literacy. It is important to consider the interrelation and reciprocal effect among these factors to identify key factors that can facilitate participation in e-VSB Literacy.

I summarize the factors that impacted active participation in e-VSB Literacy in three categories: Relevance, commitment, and socio-technical issues. From the above discussion it is evident that relevance of the e-VSB Literacy agenda to the participants’ agenda had the strongest effect on the level of participation in the bulletin board. Commitment of at least a core group to liven up the discussions and encourage others to participate would also enhance activity level in the bulletin board. It is unlikely that even a relevant initiative could be sustained without commitment (Fullan, 2001). I have chosen technological issues and their social implication as the third major factor impacting participation in the e-VSB Literacy. Newness of the media for
communication caused to a steep learning curve and together with other factors resulted in an uncertainty about the possibility for effective learning through the bulletin board among participants.

I should mention here that the perceived need is the major factor that affects participation in e-VSB Literacy. I have depicted my interpretation of all the major impacting factors in figure 5.1.

**Figure 5.1 Factors that impact participation in the e-VSB Literacy**

![Venn diagram showing factors impacting participation in e-VSB Literacy]

As it is shown, “need” is the basic factor that encompasses all other factors. I should also note that “relevance” is a category rather than one item. In this picture I have not included sub-themes of relevance only for the sake of space.

Finally, I cannot conclude that lack of time was a restricting factor. For this group of participants, lack of time was used as a cover for all other factors that they did not appear to
recognize or did not want to mention. Within the limits of this study I can only say that time had some role in discouraging participants from contributing to the bulletin board but it was not a major cause.

5.1.3 Contents of e-VSB Bulletin board

As shown in the last chapter, participants used the e-VSB Literacy bulletin board to share issues of interest about classroom practice, professional concerns related to the Literacy Project, or issues related to the potential use of e-VSB Literacy. Answers to the postings took different shapes ranging from offering help to giving hints and to asking for clarification.

The results are similar to what Slewin (2000) found in a discussion forum for special needs educators in the National Grid for Learning. He analyzed 3500 messages posted by a group of 900 participants over a period of two years to investigate how teachers use the discussion forums and if they succeed to form an online community. His analysis showed that the contents could be categorized into exchanging information, seeking support and sharing exhaustions, and to some extent giving a social dimension to the discussion forum.

Participation level in e-VSB Literacy forum was not high, limited to a core group of participants. One possible reason is that participants didn’t have a specific focus to follow in e-VSB Literacy bulletin and those who chose to contribute to the bulletin board submitted topics that were of their own interest. On the other hand, a small core group being more active than the rest of participants in online bulletin board is nothing new for web-supported TPD communities (Slewin, 2000; Barab et al., 2001)

I did not perform a systematic discourse analysis on the contents of the bulletin board but rather looked at the nature of discussions and kinds of answers posted for different discussion
topics. I also investigated participants' feelings about their contributions to the bulletin board and what it meant to them.

Messages in the e-VSB bulletin board were mostly concerned with classroom practice and the professional concerns of the participants with respect to different aspects of the Literacy Project. With the majority of messages posted having a wide focus, the Literacy Project, findings of this study with respect to the content are consistent with what Kilng and Courtright (2004) observed in ILF.

With regards to the significance of discussions in the e-VSB Literacy to participants, those discussions were not a serious part of their professional communications. Only in one instance a participant talked about the practical value of an answer she had received.

5.1.4 Development of e-VSB Literacy as a web-supported community

I have used the concept of communities of practice together with theories about effective TPD, online communities, and online communities for TPD as lenses to look at e-VSB Literacy—a initiative that intended to develop an online component for a face to face community.

This section sums up the last three sections by exploring how much e-VSB Literacy resembles a web-supported TPD community? I approach this question from three perspectives: the objective of e-VSB Literacy, purposeful collaborative processes among participants in e-VSB Literacy, and durability of those processes.

e-VSB Literacy is the first attempt to investigate the role that online technologies could play in increasing the opportunities for VSB Literacy teachers to seek professional development through ongoing professional talk with their peers.
The current version of e-VSB Literacy did not set a specific focus as a shared domain about which participants were supposed to collaborate in the bulletin board. With no clue given to them, participants used the bulletin board in a casual manner for discrete questions that did not converge toward one specific objective or set of objectives. Work of TI and ILF, on the other hand, has shown that online communities would serve professional development purposes only if teachers can identify structures where they can pursue a topic of interest with a group of like minded colleagues (Barab, Kling, & Gray, 2004; Schlager & Fusco, 2004). Even having a shared interest in the VSB Literacy Project was not enough to give direction to the e-VSB Literacy. Participants were not on the same page with regard to the perceived goal and focus of e-VSB Literacy from the beginning.

As for participation in the activities of e-VSB Literacy, I consider how participants found their online discussions meaningful and significant to their professional development and relevant to their practice. It was evident that lack of focus strongly affected commitment to participation. Similarly, participants found e-VSB Literacy loosely relevant to their urgent agendas. During the study, participants looked at new messages and posted something if they were interested in continuing the discussion. While explaining design considerations of Web based Inquiry Science Environment (http://wise.berkeley.edu), Cuthbert, Clarke and Linn (2002) emphasize that online communities and the communications that take place within them will be sustained only if they support teachers’ practice (Cuthbert, Clark, & & Linn, 2002).

In the case of e-VSB Literacy, none of the participants regarded their communications as vital for their professional development or as having a substantive effect on their practice (Barab et al., 2001).
The third quality of a community of practice is lasting long enough so that participants develop a shared history and culture. In the case of e-VSB Literacy, participation in the bulletin board did not last even in the time line of the study and participants stopped contributing to the bulletin board before the study finished.

Considering the above, e-VSB Literacy did not become a functional community mainly because the participants did not identify a shared need for it. What’s more, the future of e-VSB Literacy is questionable. This year, the Faculty of Education at the University of British Columbia fully supported the technological infrastructure and accepted the responsibility of updating the e-VSB Literacy website. Yet, the e-VSB Literacy will still lack focus and will not become relevant to VSB Literacy community unless the community decides to play a more active role in investigating the real needs for the online component.

The next sections of this chapter propose practical implications for future versions of e-VSB Literacy based on the findings of this study and discussions about the critical aspects of e-VSB Literacy.

5.2 Implications for VSB Literacy Project

e-VSB Literacy is a joint effort between a university and a k-12 education system. In its first year, e-VSB Literacy consisted of a resource website and a bulletin board, both provided by the university. Decisions on the structure and content of website and the choice of discussion forum were made in collaboration with a Literacy mentor and with an eye on the similar existing efforts. Although these are among preconditions for a web-supported community to function (Barab et al., 2001; Klecka et al., 2002; Reynolds et al., 2001), this study showed the need for their modification according to the context and also revealed some factors that were not considered in previous studies.
I discuss the practical implication of this study along four lines: assessing the need for e-VSB Literacy, more active role on the part of VSB Literacy stakeholders in developing the e-VSB Literacy, designing suitable online infrastructure, and securing support and funding.

5.2.1 Assessing the need for e-VSB Literacy

The first step in introducing any innovation is to identify the need as it is perceived of by the target users (Fullan, 2001). As I mentioned earlier, participants of this study could not identify a shared, clear, and significant need for e-VSB Literacy which resulted in scattered participation as has been reported in previous research (Johnson, 2001; Preece et al., 2004/3). Lack of a shared need was one reason why e-VSB Literacy never got off the ground in the early implementation phase. I strongly recommend that a thorough needs analysis be conducted before any step is taken in the modification of e-VSB Literacy. The needs analysis should consider all stakeholders of the Literacy project including the Literacy consultant, mentors, coordinators, and the rest of VSB Literacy teachers. This way, e-VSB Literacy will be informed by the needs of existing face to face community members from different levels and the risk for e-VSB Literacy users not to identify with their existing community will be reduced (Havelock, 2004; Zhao & Ropp, 2000; Barnett, 2002).

5.2.2 Role of VSB Literacy Project

Although the current version of e-VSB Literacy was developed by the university in collaboration with a Literacy mentor, the role of the VSB Literacy members was actually minimal. Considering the fact that participants of the e-VSB Literacy are literacy teachers who are more affiliated to the Literacy Project than to the university, VSB Literacy should take on a more significant role in decision making for the online component (Barnett, 2002; Zhao & Ropp,
I propose that a core group consisting of mentors, coordinators, and teachers are selected for the next year to collaborate with the academic group. This increased presence affects the development of the online component in multiple ways.

First, as indicated by Johnson (2001) and Barab et al. (2004), web-supported communities should take a co-evolutionary design approach, feeding the results of previous designs to the next design phase. Presence of a VSB Literacy group can increase the chance of e-VSB Literacy reflecting the needs and requirements of teachers.

Second, the literature has a strong emphasis on synchronizing the activities of online TPD components to those of the face to face TPD community (Barab et al., 2001; Klecka et al., 2002; Klecka et al., 2005; Klecka, 2003; Schlager & Fusco, 2004; Schlager et al., 2003). Schlager and Fusco (2003, 2004) suggest that online communities should be integrated into systemic professional development programs. No one better than the Literacy teachers knows the structure of face to face activities. As a result, they can reflect on how the online component can be used to enhance what is already been done face to face; e.g. using the discussion forum to talk about a coordinators' workshop. The increased connection between face to face and a web-supported community keeps teachers interested in the activities of online community and prevents lurking (Preece et al., 2004/3).

Third, Barab et. Al (2001) and Schalger and Fusco (2004) emphasize the role of leadership in online TPD communities with respect to community members' accepting responsibilities in the online component and doing their share in further developing it. Presence of a group of VSB Literacy members from all organizational levels and with diverse experience level increases the chance for those teachers who are interested in contributing to community development to take on leadership roles. The current trial of e-VSB Literacy failed to identify members who might
take the responsibility of further developing of the initiative. Having a diverse group of VSB Literacy members onboard in the research and design team might facilitate the process of taking on leadership roles.

### 5.2.3 Redesigning socio-technical infrastructure

The first version of e-VSB Literacy was implemented with a simple static structure for the website and an open-source bulletin board. The website proved to be very user friendly and apart from forgetting their password participants did not have significant problems with the bulletin board. During the study, some of the VSB Literacy members sent me material for the resource website and I uploaded those materials accordingly. As for the bulletin board, participants were in charge of it and they could create discussion topic as they wanted. Yet, some of the participants wished for a more flexible website that they could upload things to it without having to contact me.

Schlager and his colleagues believe that community members should have as much access to non-mediated contribution as possible. On the other hand Barab et al (2001) and Barab et al (2004) warn against the quality of non-reviewed submissions to web-supported communities. With these two notions in mind, I recommend a dynamic website for the next versions of e-VSB Literacy where members can submit their contributions to a reviewing committee through the website. Selection of this committee and criteria for the quality of submissions need further research and calls for careful consideration of the participation/reification and identification/negotiability dualities (Barab, et al., 2004).

Members of the VSB Literacy have an organizational username and password by which they can check their email. However, for this study they had to create a username and password for the bulletin board. Some of them lost their passwords or forget them and they had to go through
a somewhat complicated process to get a new password. I suspect that in a larger scale project, this issue will cause greater problems. I cannot recommend a definite solution but one possibility is that the district supports the technological part of the e-VSB Literacy and makes provisions so that users of e-VSB Literacy can log in to the bulletin board with the same user name and password that they use for their email.

In web-supported TPD CoPs, online technology is used to support teacher to teacher communication. This communication will not happen unless teachers learn to use the tool of web-supported community. e-VSB Literacy needs informal structures where teachers become oriented with online communication tools so that the difficulties with communication tools does not deter them from seeking learning opportunities in the web-supported community. Such support and scaffolding structures are essential to the long term sustainability of a web-supported community (Stuckey, 2004).

My last suggestion with respect to future versions of e-VSB Literacy is for the design team to consider appropriate user interfaces so that teachers can figure out if their favorite topics and resources have been lately updated. For teachers, time is a precious commodity and as this study showed, few teachers take the time to explore a website or a discussion forum to find what interests them. Any design decision that facilitates such searching would enhance the use of e-VSB Literacy.

5.2.4 Securing funding and support

Securing funding is a major obstacle in the future development of e-VSB Literacy. As Klecka (2002) indicated, it takes flexible funding resources and extensive human support to initialize a web-supported community for TPD and constantly customizing it to fit the needs of the face to face community. The first trial of e-VSB Literacy was fully supported by the
university and costs of the implementation were minimal. Nevertheless, as I mentioned in the previous section, the next version of e-VSB Literacy would need significant customization and, therefore, will cost more. Also, participants of this research were not sure if the district was ready to at least technically support the e-VSB Literacy initiative.

Right now, the e-VSB Literacy website and discussion forum are in a dormant condition. Nothing new has been added to the website but it is still available. Yet, the fact that many such web-supported communities have not lasted beyond the support of the universities or academic institutions calls for VSB Literacy to take serious steps to sustain e-VSB Literacy (Zhao & Rop, 2001). I am worried that without proper funding and support the e-VSB Literacy will never become active again. This is a pity especially because there is still need for future research on this initiative to make it an effective component of the VSB Literacy Project.

5.3 Recommendation for further research

Considering this is a pilot study, there is room for extensive research to be done on e-VSB Literacy to investigate how it can, or cannot, enhance the performance of VSB Literacy Project. In this section I will recommend some avenues for further research and also suggest some theoretical perspectives to be used in future.

As I recommended in the last section, an extensive need analysis with respect to the e-VSB Literacy is required in the first place. Although participants of this research did not agree on a shared need for the e-VSB Literacy Project, their individual needs had one thing in common: e-VSB Literacy can supplement to their face to face meetings. The need analysis study should further investigate the expectations of a diverse sample of VSB Literacy members from the e-VSB Literacy. Within that study, then, researchers can look for the priority of the needs and
speculate how clear participants are about opportunities that e-VSB Literacy can offer them. Also, that research could provide information about teachers’ technological preferences.

When I was writing the concluding part of this thesis I could not stop myself from thinking how theories of “educational change” could inform the development of e-VSB Literacy. I strongly recommend that future studies on e-VSB Literacy take into consideration the literature about innovation implementation.

I have also found Schlager and Fusco’s (2004) guideposts for online technologies that intend to support education communities of practice suitable for consideration when designing a web-supported community.

Following the redesign of e-VSB Literacy based on the needs analysis, there the need for a study that investigates the quality of participation in the activities of the e-VSB Literacy. I suggest the Computer Mediated Discourse Analysis methods (Herring, 2004) to be used for exploring the quality of online communications. This study will inform researchers if the designed online component shows characteristics of a web-supported community. It is important to also consider measures for success of e-VSB Literacy. These measures depend on what purpose e-VSB Literacy is supposed to serve and can be determined from the need analysis study.

With a more diverse pool of participants, future studies will also have to consider the effect of external incentive, anonymity, trust, and safety (Barnett, 2002; Klecka et al., 2002; Klecka et al., 2005; Klecka, 2003) on participation in the e-VSB Literacy project and also investigate the reciprocal effect of these factors on each other. Another factor to be considered in future research is the effect of time on participation in e-VSB Literacy.
At this time it is impossible to decide if e-VSB Literacy is a valuable extension to VSB Literacy or if it is just a resource exhaustive addition. Further research is needed to clarify this issue.
REFERENCES


Cambridge: Cambridge University Press.


APPENDIX B: Consent Form

The University of British Columbia
Centre for the Study of Teacher Education
2125 Main Mall, Vancouver, British Columbia, V6T 1Z4
September, 2005

Consent Form

GOING ON-LINE WITH VSB'S EARLY LITERACY PROJECT: A PILOT STUDY

Principal Investigator: Anthony Clarke, Centre for the Study of Teacher Education, University of British Columbia
Co-Investigators: Joan Storlund and Val Overgaard, Early Literacy Project, Vancouver School Board
Assistant: Hedieh Najafi, Graduate Research Assistant, Department of Curriculum Studies, University of British Columbia

Purpose:
The Vancouver School Board (VSB) Early Literacy Project has been one of Vancouver’s most successful school-based professional development initiatives in recent years. As the number of participants in the Project has grown, so too has the need to develop stronger communicative links between teachers within the Project. This one-year pilot study provides an on-line dimension to the Project to facilitate these links by providing:
1) a web-based resource component, and
2) a web-based discussion forum.

Funding:
This study is funded by a UBC Faculty of Education 'Extending VSB Partnership' grant.

Study Procedures:
As a member of the VSB Early Literacy Project you are being invited to participate in this study. We are seeking 30 participants. The study will begin in September, 2005. A 45-minute introductory meeting will be held in September, 2005, to answer questions about the study. Consent forms will be collected at the conclusion of the introductory meeting.

The teachers in the study will be interviewed before and after the study (approx. 30 minutes for each interview) and will be expected to engage in and contribute to an on-line forum once or twice a week between October, 2005,
APPENDIX C: Contact Letter for the Second Interview

THE UNIVERSITY OF BRITISH COLUMBIA

Dear [Name],

To continue data collection for the "Going Online with VSB Literacy Project" research, we need to interview you once again (approximately 20 minutes). We appreciate if you indicate a date, time, and a place of your convenience for the interview in the attached page, and send it back to us in the enclosed stamped envelope. You can contact us at for any questions or inquiries. Thanking you in anticipation to your response, we have attached a Starbucks coupon by way of thanks to this letter.

Regards,

Hedieh Najafi (Going On-Line with VSB Early Literacy Project, Research Assistant)
Literacy Goes Online – Interview timetable

Interviewee Name:

Interview time: (Please select a day and indicate time and place of your convenience)

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APPENDIX D: Guidelines for the First Interview

C. Interviewee name:

Place:

Date and Time:

Section A. Questions regarding professional background

1. Please tell me about your teaching history,
   - Where you did you do your teaching degree?
   - How many years have you been teaching?
   - In which schools?
   - In which subjects area or at what grade levels?

2. Please tell me about your involvement and/or interest in the Early Literacy Project,
   - When did you first become interested in it? What has been your involvement to date?
   - How has it effected your teaching practices, and if so, in what ways?
   - How do you think it effected pupil learning, and if so, in what ways?

3. From past experience, what have you found to be the most effective form of professional development for you? Why?

Section B. Questions regarding technology use

4- What is your general feeling about computer technology?

5-Where do you have access to computer/ internet? Where do you usually use it?

6-How do you use your computer? What do you usually do when you are online?
7. Please tell us about any previous experience that you have had in relation to on-line professional development activities; e.g., Discussion forums?

Section C. Questions regarding the pilot study

8-How often during a week do you think you will log on into the discussion forum during this pilot study?

9-What can motivate you to go online and use the website?

10-What can motivate you to go online and use the forum?

12-How do you think you will use this forum? Could you give me some example of the issues you think you’d like to discuss with your colleagues online?

13-How do you think participation in discussion forum and the website will affect your professional development?

15-Some people say teachers can communicate about their practice without using such technologies as discussion forums. How would you respond to that suggestion?

14-In your opinion what are the criteria for a good online discussion?

15- How do you usually communicate with your colleagues in the Literacy project? How do you think an online communication tool can affect you communication with others?

16- What is the one thing that you are hoping to get out of your involvement in this study?

18. As you enter the study, is there anything else that you would like to comment on with respect to the VSB Early Literacy Project, or the pilot study itself?

Section D: Please provide a pseudonym that you like to be addressed by in the study’s reports
APPENDIX E: Guidelines for the Second Interview

C. Interviewee name:

Place:

Date and Time:

Section A. Questions regarding characteristics of VSB Literacy as a professional community

1. How do you describe your membership in VSB Literacy Project?
2. What makes you feel that you belong to a community?

Section B. Questions regarding the need for e-VSB Literacy

3. Why do you think it is important to use online technologies in the VSB Literacy Project?
4. Could you describe a situation when you felt that the online component was useful?
5. What are your concerns about the e-VSB Literacy?
6. How do you think teachers can contribute to online component?
7. Can you think of some practical examples where online component can be used to make the situation better?

Section C. Questions regarding participants use of e-VSB Literacy

8. How did you find the e-VSB Literacy website?
9. How did you use the e-VSB Literacy website?
10. How did you find the e-VSB Literacy discussion forum?
11. How did you use the e-VSB Literacy discussion forum? Could you give me some examples?
12. Could you comment on your use of the discussion forum? How much did it matter to you?
13. What didn't work in e-VSB Literacy?

Section D: Suggestions, guidelines, and reflections about the e-VSB Literacy

14. What do you think about the success of e-VSB Literacy up to this point?

15. Who do you think can benefit from the website and the discussion forum the most?

16. How do you see the future of this online component?

17. How do you describe your feelings about participating in this study?

18. What are your suggestions for improving e-VSB Literacy?

19. Did you share this experience with anyone else at work or at home? What was the reaction or reflection?