Professional Learning Through Collaborative Inquiry

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Abstract

The purpose of this project was to explore the experiences of a group of elementary school teachers, with regards to professional learning as they moved through a school-based collaborative inquiry process. As the newly seconded Coordinator of Inquiry (inquiry support teacher) in my school, I had the opportunity to develop and facilitate this process within our school. My research focus was the factors that contributed to the ability of our staff to learn and assimilate that learning into their teaching, thereby increasing the adaptive capacity of our staff and our school. This project was an action research project. In my quest to introduce collaborative inquiry as a process to support and encourage teacher professional learning and create an environment conducive to educational change, I incorporated various factors into this inquiry, including collaborative teaching partners working with multi-age buddy classes. Teacher professional learning was focused on assessment for learning strategies, instructional technology, problem solving and critical thinking skills, self-regulated learning theory and the BC Provincial Curriculum for Social Responsibility. Finally, I used current research on educational change theory to direct my personal leadership with regards to this project. Quantitative research data was collected voluntarily from teachers by means of a survey. Qualitative research data was collected by means of a survey, personal reflections, interviews, and researcher observations. Teacher professional learning, in the focus areas of our collaborative inquiry, occurred and was significant in providing evidence that the staff was building the school’s adaptive capacity for the benefit of all learners.
# ABSTRACT


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Chapter 1: Background

Purpose of the Study

The purpose of this study was to explore, observe, record and reflect on the experiences of a group of elementary school teachers moving through a collaborative inquiry process. My intention was to reflect on these experiences and to pull out factors, patterns and themes related to this particular collaborative professional learning experience, including my own leadership in this process. Finally, I hoped to discover if teacher professional learning did occur, in what areas of our inquiry, and if that learning contributed to the adaptive capacity of our school. Learning is a life-long process. In my 18 years of teaching I have had the opportunity to be part of many professional development days, but the true, deep, practice–changing learning always came from more focused collaborative learning opportunities in specific areas of interest to myself and a small group of colleagues. In the course of my teaching career, new professional learning opportunities and new ways of teaching and thinking have continually been presented, with excitement and exuberance, by school district staff and by our provincial Ministry of Education. However, not everyone embraces the new ideas within my teaching community. Many staff look at the new ideas and policies with a “this too shall pass” mindset, and I could include myself in this as well, depending on workload of the school year, personal obligations, the source of these “new” ideas, or how well the new ideas or policies fit with my teaching style. Having said this, it was a school district initiative supporting Assessment for Learning that started me on a significant journey of professional learning, of which this thesis process has become a part. In particular,
research into teaching practices, with significant effects on student learning, has fundamentally changed my teaching practice and, I believe, the success of my learners.

I am a teacher leader in my school setting, in the sense that I am active and involved in many of our school activities and initiatives. During the past two years, I have had the opportunity to support teacher learning in my school setting through a collaborative inquiry process as a 0.1 FTE (2 hours per week), Coordinator of Inquiry (COI). The purpose of my position is to support teaching staff in a collaborative inquiry process, in an area collectively chosen, with the intention of deepening our own learning for the benefit of our students and our school community. Each elementary school in our school district has been given this time to support teacher professional learning. Each month, the elementary school principals and Coordinators of Inquiry meet with school district staff to discuss, share, encourage and support each other in this process. Although this process has been in place for almost two years, the depth of professional learning as a result of providing Coordinators of Inquiry in schools appears to range from very little impact to hugely significant. I am curious about what factors may make the difference.

As with any professional learning objective and collaborative group effort there are numerous factors that will have considerable influence over the course of an inquiry. Through this research, I have been able to use the shared experiences, of both myself and my school colleagues, to explore factors affecting professional learning. Further, by collecting and sharing rich resources, using collaborative inquiry time to support and immerse ourselves in our inquiry, and scaffolding our learning objectives into a project (project-based learning), I was able to observe and report on the experiences of myself and my colleagues as we moved through this inquiry process within our school setting.
Justification of Study

This study is important for several reasons. First, there are a number of proposed changes to British Columbia’s education system in response to the changing needs of our 21st century learners. If teachers are going to assimilate these changes into their practice, how can this effectively happen? I believe these changes are going to require significant changes in teacher practice, which means we will need effective professional learning opportunities for teachers. Second, my school district has invested substantial resources (time, money and expertise) in professional learning focused on inquiry education. This investment warrants an examination of the impact of the Coordinators of Inquiry program. It is important to explore this program at a school-based level, as a vehicle to support teacher learning for the benefit of the students. Third, I believe excellent teaching is an ongoing process of inquiry and reflection, which has positively affected my practice for the benefit of my students. I would like to encourage and support my colleagues as they continue to learn as we move into a more technology-based, innovative education system.

Research Question

What is the experience of teachers, with regards to their professional learning, as they move through a school-based collaborative inquiry process?

Using current educational research on teacher professional learning, collaborative inquiry, and educational change, I was able to design the process our staff used to support our school-based inquiry cycle. Through this research study, I hope to identify the
factors that have had an impact on teacher professional learning. I am interested to know if and how this particular collaborative inquiry process has supported and encouraged teacher learning; if it has deepened and expanded individual teacher learning. I am also interested in evidence that this process has changed teacher practice, with new learning strategies being implemented and becoming part of a teacher’s teaching repertoire.

**Definition of Terms**

Teacher professional learning will be defined as “both formal and informal opportunities for teachers and leaders to deepen professional knowledge and refine professional skills” (Timperley, April 2011, p.4). Professional development days (Pro D Days) and district in-service, may be seen as formal opportunities for professional learning; whereas school-based collaborative time will be considered an informal opportunity for professional learning.

Inquiry will be defined as questions developed by learners for the purposes of furthering knowledge and professional learning in a selected area of interest or focus, as in the case of our school-based inquiry. As previously stated, this research is an inquiry into teacher learning, using a school-based inquiry as its focus.

I will define collaborative inquiry as two or more teacher partners working together to deepen learning in a common focus of inquiry, for the benefit of their learners.

The inquiry process, for the propose of this research project, will be defined as an inquiry cycle, and is consistent with Kaser and Halbert’s (2012) Spiral of Inquiry (see Figure 1).
Inquiry-based learning will include the inquiry process, project-based learning, problem-based learning and learning through design (Barron & Darling-Hammond, 2010).

Educational change is defined as the processes and theories that “build capacity for continuous improvement” that encourage “new ways of working and learning” (Fullan, 2006, p.6). For this research, “new ways of working and learning” include school-based inquiry, inquiry based learning, collaborative inquiry, collaborative time, buddy projects and the support of a school-based Coordinator of Inquiry (COI).

Building adaptive capacity will be defined as the ability of the school staff to continue to “develop knowledge and skills”, “attract and use resources (time, ideas, expertise, money)” and be “committed to putting in the energy to getting important things done collectively and continuously” (Fullan, 2011, p. 57). A school that is building adaptive capacity is a school that is committed to on-going learning (Timperley, 2011).
Chapter 2: Literature Review

Themes

The themes of this review are consistent with the focus of this research project: teacher professional learning, collaborative inquiry and educational change. Using Helen Timperley’s (2011) model (Figure 2) of leader inquiry to design and implement a teacher professional learning experience (with student learning at its core), I sought to collect ideas based on sound educational research to further support this professional learning action research project. My focus was to include factors known to contribute to professional learning for the purpose of educational change, in a seamless and coherent fashion, that could promote teacher professional learning within our school setting.

![Figure 2. Leader inquiry and knowledge-building cycle to promote valued teaching and student outcomes. From Timperley (2011, p. 22).](image-url)
Criteria for Choice of Literature

1. Research that is contemporary, most within the last 10 years
2. Research that includes Canadian content and perspectives
3. Research that links the themes of teacher professional learning, inquiry and collaboration, and educational change

Literature Review

Teacher Professional Learning

There are various studies suggesting that, as educators, we should be moving away from traditional one-day/one-topic professional development workshops, which do not support deep teacher learning or sustainable educational change (Borko, 2004; Easton, 2008; Guskey, 1986; Senge et al., 2007) towards professional learning that is on-going and integrated into classroom learning (Fullan, 2006; Hargreaves & Shirley, 2009; Senge et al., 2007; Sparks, 2002; Timperley, 2011). The big question here is – what works? What factors need to be in place to deepen and sustain professional learning, build adaptive capacity in schools and ultimately lead to the greatest success for learners? Current research into teacher professional development and teacher professional learning has more implications for future research (Borko, 2004, 2010; Opfer and Pedder, 2011) than definitive answers.

What we do know is that on-going professional learning for teachers is critical to student learning (Fullan, 2006, 2011; Guskey, 1986; Hargreaves & Shirley, 2009; Senge et al., 2007; Timperley, 2011). However, how do we encourage teachers to engage in their own professional learning for the benefit of their learners? How do we interest
teachers in innovative teaching methods based on current research in education, when those teachers are used to professional development that is typically a one-day presentation, something that is done to teachers, not something teachers become engaged in (Kaser and Halbert, 2009; Timperley, 2011; Senge et al., 2007)? Research suggests that teachers will become more motivated to engage in their own learning if they see changes in their students’ learning; that student success feeds the motivation to keep learning (Guskey, 1986; Timperley, 2011). The focus of my personal research inquiry has been to put a collaborative inquiry process in place that encourages, supports, deepens and sustains teacher learning for the benefit of all learners within our school.

Inquiry and Collaboration

I first looked at Helen Timperley’s “Leader inquiry and knowledge-building cycle to promote valued teaching and student outcomes” (2011, p. 22) as a way to promote and encourage teacher learning in our school (see Figure 2). I also drew from the work of Barron and Darling-Hammond (2010), Kaser and Halbert (2009) and Fullan (2006, 2011). First, in designing any inquiry question or process, it is necessary to collect evidence about the needs of learners in their particular setting (Barron and Darling-Hammond, 2010; Easton, 2008; Fullan, 2006; Kaser and Halbert, 2009; Timperley, 2011). Research into designing a school-based inquiry suggests teachers would be more likely to participate if the inquiry question was important to their teaching (Hargreaves and Shirley, 2009; Timperley, 2011); and that they would be more motivated to participate if they could see a change for their learners (Guskey, 1986; Timperley, 2011). It would be important to include teachers in the design of the inquiry question to encourage ownership of the inquiry, and encourage a greater investment in the whole
process (Kaser and Halbert, 2012; Sparks, 2002; Wheatley, 2009). In addition, a collective, school-wide focus would have the potential for greater success (Fullan, 2006), than if each teacher or group of teachers decided their own area of inquiry, particularly for the first inquiry cycle. When planning an inquiry and its supporting components, an important consideration is the teachers’ varying levels of experience and expertise. Therefore, it would be important to have an inquiry process that would differentiate based on each learners’ needs (Clarke and Hollingsworth, 2002; Collinson et al., 2009; Kaser and Halbert, 2012). With regards to this project, this meant that the inquiry question needed to be open enough for teacher learners to feel comfortable and encourage learning to happen. Furthermore, we would need to implement the “time, space and conditions for meaningful teacher learning, focusing on the connection between new strategies and student outcomes” (Kaser and Halbert, 2009, p. 132).

The next component piece of the inquiry process was to ensure that there was a structure to work within (Fullan, 2006; Hargreaves and Shirley, 2009; Timperley, 2011). This structure is critical to the inquiry and is provided by knowledgeable leadership, a detailed design, and direction. Careful planning and scaffolding (Barron and Darling-Hammond, 2010) of the learning opportunities is necessary to ensure that learning is supported and given an opportunity to succeed (Kaser and Halbert, 2009; Sagor, 1991; Sparks, 2002). For the purposes of this project, a template was designed (Appendix A), incorporating all the components of our inquiry, to provide teachers with a starting point and the scaffolding necessary to design a secondary inquiry (to be used in the classroom) building on our school-based inquiry. It was important that these projects were directly relevant to both teacher and student learning (Timperley, 2011). I was working on the
premise that we learn by doing. As Timperley states, “Implementation is part of how something is more deeply understood” (2011, p. 61). These inquiry projects were also designed to serve another purpose as suggested by the research, that of on-going assessment and accountability (Fullan, 2006; Kaser and Halbert, 2009; Timperley, 2011).

A school-based inquiry by its very nature is a collaborative undertaking. Research into teacher professional learning, inquiry and/or educational change ultimately leads to collaboration as a necessary part of the process (Barron and Darling-Hammond, 2010; Borko, 2004; Butler and Schnellert, 2012; Clarke and Hollingsworth, 2002; Fullan, 2006; Hargreaves and Shirley, 2009; Kaser and Halbert, 2009; Senge et al., 2007; Sparks, 2002; Timperley, 2011; Wheatley, 2009) and therefore has a significant place in this project. To support teachers and let them know that their learning within the inquiry was valued, it was important to provide collaborative time during school hours, so that it wasn’t just one more thing teachers were being asked to do (Fullan, 2011). Collaboration appears to be a key factor, and as Wheatley points out “These are always the conditions that bring out our best – we’re focused on something we really care about, we work intensely together, inventing solutions as needed, we take all kinds of risks; we communicate constantly” (2009, p. 130).

**Educational Change and Leadership**

A number of prominent leaders in the field of educational change continue to research, write and revamp their ideas of ways to help education systems adapt to a changing world (Barron and Darling-Hammond, 2010; Fullan, 2006; 2011; Hargreaves and Shirley, 2009; Kaser and Halbert, 2009; Quinn, 1996; Senge et al., 2007; Sparks, 2002) and although these researchers have different theories or approaches to looking at
these systems, at their core is the belief that teacher learning will make a difference for students in the classroom. Furthermore, for deep and lasting change to occur, leadership needs to be present at all levels in the system (Clarke and Hollingsworth, 2002; Fullan, 2006; Kaser and Halbert, 2009; Sagor, 1991; Senge et al., 2007; Sparks, 2002, Timperley, 2011). Kaser and Halbert call for leaders to design for adult learning “with the mindsets of trust, inquiry, intense moral purpose and a focus on learning and evidence” (2009, p. 138). Some researchers suggest that in order for lasting, sustainable, systemic change to take place, there needs to be coaching and facilitation of the learning process at every level (Fullan, 2006; Kaser and Halbert 2009; Timperley, 2011). These people (leaders, coaches, facilitators, teachers) must be deeply knowledgeable and foster relationships of trust and respect (Fullan, 2011; Kaser and Halbert, 2009; Timperley, 2011). Furthermore, as Fullan states, these leaders need to “maintain an attitude of wisdom and a healthy dose of modesty” and “learn when and how to get out of the way, and let others make contributions” (2011, p. 118).

Multi-layers of Inquiry

Because this research includes multi-layers of inquiry, I felt it was important to highlight them here as an attempt to bring some clarity the process.

My initial inquiry: What is the experience of teachers, with regards to their professional learning, as they move through a school-based collaborative inquiry process?

Action research inquiry for thesis: Using current research in teacher professional learning, collaborative inquiry and educational change, how can I facilitate teacher professional learning and build adaptive capacity in my school?
School-based inquiry: Will the use of the social responsibility performance standards in conjunction with IT (Instructional Technology) and Assessment for Learning strategies, help students demonstrate a greater sense of engagement in their own learning and increasingly become better problem-solvers, critical thinkers and self-regulated learners?

**Researcher Contribution**

As a researcher, I have focused on research and practice connected to the themes of my project. In reality, this is a multi-layered inquiry, a spiral of inquiry (Kaser & Halbert, 2012) into teacher professional learning that has, at its core, the desire to help teachers meet the learning needs of the 21st century learner. My original inquiry was transformed into an inquiry project, which then became an action research project for the purposes of this thesis. This inquiry necessitated a school-based inquiry question, which became a collaborative project itself: to design an inquiry question for the students to use, in multi-aged collaborative groups. These students then created projects, which we as a school have used to reflect on and celebrate our learning.

This inquiry process is a complex experience, which I have facilitated for my staff, using current educational research in teacher professional learning, collaborative inquiry and educational change theory. This action research project serves as a way to test these theories in my particular elementary school context. I hope that through an in-depth examination of the experiences of the teachers who have completed this project that I might be able to contribute some further insight into the process of teacher professional learning through collaborative inquiry, supported by my personal educational leadership.
Chapter 3: Procedures and Methods

Methodology

Research inquiry question: What is the experience of teachers, with regards to their professional learning, as they move through a school-based collaborative inquiry process?

My research goal was to create an environment supportive of teacher learning, ultimately increasing the adaptive capacity of our staff in the areas of professional learning we had previously agreed upon (social responsibility, instructional technology, assessment for learning, critical thinking and problem-solving, and self-regulated learning). We, as a staff, said that learning in the topics included in our school-based inquiry was where we wanted to focus our professional learning, but how was this to happen? To facilitate the learning process, this school-based inquiry question became an action research project. This methodology was most appropriate to my research question, because my entire focus was on engaging teachers in their own learning with regards to the inquiry question we, as a staff, had agreed upon. This inquiry process was and continues to be a cycle of research, action and reflection (McMillan, 2008).

What could I do as an inquiry support teacher to encourage teachers to grow and develop in these areas? How could I support and encourage a positive environment conducive to teacher learning? Would I be able to help teachers develop and sustain feelings of empowerment and motivation throughout the process? Would teachers become more aware of current research and innovations in education? Would teachers take new learning and use it in the classroom? Would that new learning become part of
how they teach? What factors would have the greatest impact? The least impact? These are the questions I was asking myself as I moved through my own action research cycle.

In order to build a thorough understanding (McMillan, 2008) of this process, I chose to collect data in several ways: a staff needs questionnaire to help direct the focus of the action at the start of the inquiry cycle; three sets of personal reflections from myself and colleagues during the cycle; and in depth personal interviews at the end of the cycle.

Participants

All participants in this research project are professional teachers, licensed by the Province of British Columbia who teach at a single, mid-sized elementary school (300-350 students) in a Metro Vancouver school district. All participants are classroom teachers, some full-time, others are part-time job share partners. Participants were between the ages of 26 and 60. Race and gender were not factored into this study, however most participants were Caucasian females. All participants gave consent to use data collected for the purposes of this project. Anonymity has been protected by the use of pseudonyms.

Procedure

Inquiry Building Processes

Prior to determining our school inquiry focus, two important processes were undertaken by our school staff. First, our staff, parents and students participated in a school-wide visioning process, which was directed and facilitated by our administrator
and school district staff. This process took several weeks, with the final outcome being a document outlining our collective values and a shared vision/purpose for our school. This visioning process was undertaken at each school and at each administrative level within our school district. Each site vision was then incorporated into a district-wide vision.

Next, our staff embarked on a more specific appreciative inquiry process, so that we could come to a consensus on the direction our school-based inquiry was to take. This process included examining our new vision, suggested competencies for the 21st century learner, and student needs within our school. Further activities were designed to sort and prioritize student needs. Once we agreed upon the general areas we were going to focus on for student improvement, we used this information to draft our school-based inquiry. We continued to rework and refine our inquiry question to ensure that there was something for everyone, being cognizant of the various skill levels of our teaching staff. Teachers were aware that the next step would be to explore the professional learning needs of teachers to support and develop the school-based inquiry.

**School-based Inquiry Question**

Will the use of the social responsibility performance standards in conjunction with IT (Instructional Technology) and Assessment for Learning strategies, help students demonstrate a greater sense of engagement in their own learning and increasingly become better problem-solvers, critical thinkers and self-regulated learners?

**Themes for Teacher Professional Learning**

Assessment For Learning, Critical Thinking, Problem Solving, Instructional Technology, Social Responsibility Curriculum, and Self-Regulated Learning
As an Coordinator of Inquiry (COI)/inquiry support teacher, I:

1. Gathered together a group of interested colleagues to participate in school-based inquiry

2. Facilitated the development of our school-based inquiry question

3. Developed and collected information from a “Professional Learning Survey”, I used the data collected to guide my work in creating support for their learning

4. Created a template to scaffold teacher learning and to support project-based learning opportunities with multi-age buddy classes whereby teachers could continue their learning by facilitating student learning in the same areas (Appendix A)

5. Supported teacher collaboration groups throughout the school year by organizing and providing relief time, materials and support

6. Created various professional learning opportunities throughout the school year and, unless otherwise noted, I created and delivered the following Pro D, with school staff support:

   - August 2012 Pro D – School-based Inquiry Review and Reflection
   - September 2012 Pro D – Instructional Technology Workshop
   - October 2012 Pro D – Social Responsibility, Self-Regulation and Resiliency Workshop (district specialist presented)
   - November 2012 Pro D – Critical Thinking and Self-Regulation Workshop

7. Asked teachers to reflect on their professional learning

8. Supported teachers’ ongoing learning through ongoing communication
As a Researcher, I:

1. Sought consent from members of the collaboration groups to use information from their “Professional Learning Surveys”
2. Sought consent from members of the collaboration groups to use quotes and information from their “Professional Development Reflections”
3. Sought consent from members of the collaboration groups to participate in an open-ended semi-structured interview
4. Conducted interviews with five colleagues who participated in the collaborative inquiry process
5. Maintained an ongoing journal of reflections on my own learning and leadership in supporting inquiry, collaboration and professional learning
6. Analyzed the surveys, professional reflections, interview transcripts and my researcher’s journal for themes that arose.

I used four different forms of data: 1) A preliminary questionnaire at the start of the inquiry process – to determine teachers’ thoughts and needs toward professional learning; 2) Teacher professional development reflections – following professional learning opportunities; 3) Open, semi-structured interviews at the end of the process; and 4) My own personal observations and reflections throughout the process.

The questionnaire was anonymous and voluntary. This questionnaire was designed to provide direction for planning professional learning opportunities within the context of our inquiry question. It included 14 questions in three sections: knowledge and skills; collaborative time; and resources needed (time, tools and expertise). Results from this questionnaire directed professional development days and use of collaborative time.
The professional development reflections were intended to allow teachers time to reflect on their professional learning on school-based professional development days. These reflections were also anonymous and voluntary. The intention was to provide teachers with an opportunity to reflect on their own professional learning using three questions teachers and school leaders should be able to answer (Timperley, April 2011, p. 20): What are you learning? (What was our focus today and what did you personally get out of it?) How is it going? (Successes? Ah-ha moments? Questions?) Where to next? (When and where can you use this learning?) These reflections were then transcribed, coded and analyzed for themes. When initially coding, I chose to look for words and phrases that connected to the themes of knowledge and skills, resources (time, tools and expertise) and inquiry. Next, I coded the same text again, but now looking for evidence that teacher learning was happening using Timperley’s rubric for basic, developing and integrated levels of teacher professional learning (2011, p. 137). This re-coding process allowed me to look the same data but through a different lens.

I then interviewed five teachers who had all participated in the collaborative inquiry process, and had completed their buddy class inquiry project by the end of February. These interviews were open-ended, semi-structured interviews. The interviews required consent, were voluntary and identity was protected. The purpose of the interview was to have teachers share their experiences within this inquiry process: the resources they used or needed, the process of collaboration, and their own professional learning. These interviews were then transcribed, coded and analyzed for themes. Initially, I coded for: 1) areas of professional learning; 2) support and resources; 3) inquiry. Next, I recoded the transcribed interviews looking for evidence (words and phrases) that could
suggest that we were building adaptive capacity in our school, through this collaborative inquiry process.

Throughout this process, I kept personal researcher notes and reflections on the planning and implementation of the process. I used these notes to refer back to as I sought to compose my discussion. Notes pertained to specific Pro D Days, discussions with colleagues regarding collaborative time activities, their buddy projects, their learning needs, other professional learning opportunities, and questions or insights around the inquiry, my leadership and changes made along the way.
Chapter 4: Findings and Results

Research Question: What is the experience of teachers, with regards to their professional learning, as they move through a school-based collaborative inquiry process?

In order to place the findings and results of the research in context, it is important to revisit the inquiry question our elementary school had created. Through the process of appreciative inquiry, our staff decided upon the following school-based inquiry question:

Will the use of the social responsibility performance standards in conjunction with IT (Instructional Technology) and Assessment for Learning strategies, help students demonstrate a greater sense of engagement in their own learning and increasingly become better problem-solvers, critical thinkers and self-regulated learners?

Data was obtained from three sources: 1) Teacher Professional Learning Surveys, 2) Professional Development Reflections, and 3) Personal Semi-Structured, Open Interviews.

Teacher Professional Learning Survey

In order to determine what type of learning support the staff required or desired, and to direct future professional learning opportunities (Professional Development Days) a learning needs survey was developed by the researcher (Appendix B). This survey relates directly to the school-based inquiry question. All staff present at an August professional development day, prior to the school year beginning, took part in this survey. For the purposes of anonymity, surveys were numbered and as they were collected, by a third party, the survey number was recorded beside the survey respondent’s name on a staff list. For the purposes of this research, survey results included are from fourteen
classroom-based teachers, who have given their consent to participate in this study. These numbered surveys were passed onto the researcher once consent was obtained. The survey is divided into three sections: 1) Knowledge and Skills; 2) Collaborative Time; and 3) Time, Tools and Resources. Data collected was tallied for each response. Individual comments were used to provide depth and clarification to individual responses. A complete summary of results is included in Appendix C.

Survey Results

In Section A: Knowledge and Skills, teachers were asked to indicate which six areas of our school-based inquiry they would like to spend more time learning. Each area was numbered from one to six, and was further divided to provide a more specific focus within each area. Teachers were invited to check all topics that were applicable to their own learning needs. It was determined that all fourteen respondents felt further professional learning in the area of Instructional Technology was needed. This was followed by Assessment for Learning/Formative Assessment (13); Critical Thinking (12); Self-regulated Learning (11); Social Responsibility (9); and Problem-Solving (8).
In Section B: Collaboration Time, teachers were asked four questions (questions seven to ten on the survey) to explore the teachers’ thoughts around collaborative time and their intended use for it. A key piece of this inquiry was to be the provision of collaboration time for teachers to use to develop inquiry projects with a buddy class. This collaboration time would be provided during school hours. The intention of the collaborative time was to provide teachers with the time to explore their own professional learning needs, with a partner, and within the framework of the school-based inquiry. Question seven on the survey asked participants to indicate if they felt collaborative time, during school hours, was important for the purposes of this inquiry. All fourteen respondents indicated it was important. Comments made by respondents included,

“Yes, it helps to clarify thinking, fine tune projects, working towards excellence - having more than my own thinking.”
“Very! Need the space to think and discuss ideas and work through the process – life happens and people aren’t always available at the same time.”

Question eight asked participants to indicate how they saw themselves using the collaborative time. Participants were given a selection of ideas and space to include their own ideas as well. ‘Planning buddy class project’ and ‘Experimenting with and exploring technology’ were the most frequently indicated choices, with 13 and 12 responses respectively. Question nine was intended to help determine the formation of buddy class partnerships: “Is it important for you to choose who you are going to work with?” Twelve respondents indicated “No”, it was not important; one “Yes” and one did not indicate a response. Question ten allowed those people who wished to indicate “No” to question nine, a place to provide some background information. If they answered yes to question nine, question ten provided a place for respondents to explain why they should choose their own buddy partner. The one respondent who chose ‘Yes’ had this comment:

“Yes, a good fit is critical to the success of our project and learning.”

However, an additional eight respondents used this space to comment about buddy class partnerships, even though they had indicated “No” or made no comment on the previous question. Comments were varied, and included some other needs that might need to be met by a collaborative partner choice.

“Not necessarily although it makes a difference on how much extra work a person may have to do depending on partner’s interest and level of knowledge. I enjoy feeding off of a colleagues’ excitement and it can be less fulfilling if it isn’t really there.”

“I would like to work with someone with expertise. I need a lot of assistance in this area.”
The final section of the survey, ‘Section C: Resources: Time, Tools and Expertise’, questions 11, 12 and 13, was included to determine the resources teachers felt that they would need as they moved forward with their inquiry projects. All fourteen respondents indicated time to work with a collaborative partner would be needed. This was followed by ‘Access to Expertise’ in Technology Use (11), Assessment for Learning (11), and Critical Thinking (9). In ‘Access to Tools’, The TC² website (Critical Thinking Consortium), Use of LCD/In Focus Projector, MacBook Lab, and iPads all had seven responses each (Table B). Complete survey data is included in Appendix C: Professional Learning Results Survey Data.

<table>
<thead>
<tr>
<th>Access to . . .</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaborative Time</td>
<td>14</td>
</tr>
<tr>
<td>Tools - TC2 Website</td>
<td>7</td>
</tr>
<tr>
<td>Tools - Social Responsibility Curriculum</td>
<td>6</td>
</tr>
<tr>
<td>Tools - Problem Solving Curriculum</td>
<td>4</td>
</tr>
<tr>
<td>Tools - Infocus Projector</td>
<td>7</td>
</tr>
<tr>
<td>Tools - Document Camera</td>
<td>6</td>
</tr>
<tr>
<td>Tools - Macbook Lab</td>
<td>7</td>
</tr>
<tr>
<td>Tools - iPads</td>
<td>7</td>
</tr>
<tr>
<td>Tools - Smartboard</td>
<td>6</td>
</tr>
<tr>
<td>Tools - PC Lab</td>
<td>1</td>
</tr>
<tr>
<td>Tools - digital cameras</td>
<td>6</td>
</tr>
<tr>
<td>Tools - Professional Blogs</td>
<td>4</td>
</tr>
<tr>
<td>Tools - Professional Articles</td>
<td>2</td>
</tr>
<tr>
<td>Tools - Professional Books</td>
<td>3</td>
</tr>
<tr>
<td>Tools - Other</td>
<td>0</td>
</tr>
<tr>
<td>Expertise - Social Responsibility</td>
<td>3</td>
</tr>
<tr>
<td>Expertise - Problem Solving</td>
<td>2</td>
</tr>
<tr>
<td>Expertise - Critical Thinking</td>
<td>9</td>
</tr>
<tr>
<td>Expertise - Technology Use</td>
<td>11</td>
</tr>
<tr>
<td>Expertise - Assessment for Learning</td>
<td>11</td>
</tr>
<tr>
<td>Expertise - Self-Regulation</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 2: Professional learning needs survey, Section C: Access to Resources (Time, Tools and Expertise)
Professional Development Reflections Results

Results of the Professional Learning Needs survey were shared with staff and our administrator, and used to plan professional development days for the upcoming 2012-2013 school year. I requested, and staff agreed, to dedicate half of each of three professional development days, in the fall, to their own professional learning within the parameters of the school-based inquiry. Pro D Days were organized using the survey data: September – Technology; October – Social Responsibility, Self-Regulation and Resiliency; November – Critical Thinking and Self-Regulated Learning. Following each of the three Pro D Days, teachers were asked to fill in a Professional Development Reflection (Appendix D). The reflection questions were based on Timperley’s three questions: What are you learning? How’s it going? Where to next? (April 2011). A fourth section of the reflection was made available for, “Additional Reflections."

For each of the three Pro D Days, I received a different number of ‘Professional Development Reflections’ that I could use based on the consent provided to use these reflections in my research: six for September – Technology; seven for October – Social Responsibility, Self-Regulation and Resiliency; and ten for November – Critical Thinking and Self-Regulated Learning. The data from these reflections was then transcribed, word for word, into one document and then analyzed using an axial coding procedure to pull out recurring themes. First, reflections from each individual Pro D day were coded using the themes: Knowledge and Skills, Resources (Time, Tools and Expertise) and Inquiry. Next, an attempt was made to pull the reflections from all three Pro D Days together, by examining the responses for each of the four questions over the three Pro D Days, looking for evidence that professional learning was happening. Timperley provides
categories to help establish levels of professional learning as moving from basic to developing, or from developing to integrated (Timperley, 2011, p. 137). I used Timperley’s levels as my lens as I was re-coding the teachers’ personal reflections to their professional learning at the Pro D Days. This coding process involved several readings and re-readings. Codes, key words and phrases used for the data analysis of the professional development reflections are described in Figure 3.

<table>
<thead>
<tr>
<th>Themes</th>
<th>Phrases and key words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inquiry</td>
<td>Buddy Projects, Buddy Classes, Inquiry Projects, Inquiry Questions, Cycle – (19)</td>
</tr>
<tr>
<td>Knowledge and Skills</td>
<td>Technology (15), Critical Thinking (17), Social Responsibility and Self-regulated Learning (20), Assessment for Learning (5),</td>
</tr>
</tbody>
</table>

*Figure 3* Axial coding of key words and phrases: Codes based on professional learning reflections from three professional development days, which were designed to support the school-based inquiry question.

Coding data from the Professional Development Reflections from the three Pro D Days revealed that teacher professional learning has occurred in all the areas of our school-based inquiry, but most strongly in the areas of focus for each particular day: technology, social responsibility and critical thinking. When teachers were asked to reflect on what they were learning at each Pro D Day it was expected that they would comment on the particular topic of the Pro D presentation. Teachers frequently linked that learning to the inquiry and resources themes:

“My class would enjoy doing a podcast with an older buddy class.”
“We will be able to implement (technology learning) with planned projects.”

“I am referring to criteria more often and asking students to help with developing it.”

“This is helping me to think about my learning needs in relation to how my kids are learning and what their learning needs might be.”

“We are deepening our knowledge in very rich ways.”

This was an indication that professional learning at the school was not at a basic level, which Timperley defines as “separate from most other school processes” (2011, p. 137), but was moving toward the higher, integrated level, “part of the whole school challenge to solve agreed problems of teaching and learning and integrated into the school’s routines” (Timperley, 2011, p. 137). The teachers’ reflections in response to the questions, How is it going? and Where to next? (Timperley, April 2011) provided further evidence that professional learning was moving from a developing level to a more integrated level.

Coding of the Professional Development Reflections further revealed the importance of resources in this process. Teachers commented on their appreciation of support in the form of expertise and leadership, time to learn and explore, and resources such as technology and professional books.

“Her instructions are very clear and she always takes the time to make sure people are comfortable. She makes the whole process feel less daunting.”

“I think our PAC is farsighted for providing Macs to primary teachers. I appreciate the attendance of the administrator throughout the whole process and her willingness to work with staff, PAC and our COI on supporting the creative use of IT at our school.”
Individual Interview Results

Of the fourteen respondents who completed research consent forms, twelve indicated they would be willing to participate in a recorded, open interview. From those twelve respondents, five interview participants were selected, each of whom had participated in at least one school-based inquiry buddy class project. Interview questions were provided to teachers in advance of the interview (refer to Appendix E: Interview Questions). The interview questions focused on four areas: 1) Resources (time, tools and expertise); 2) Collaboration Time; 3) Professional Knowledge and Skills; and 4) The Inquiry Process. Interviews were conducted at the convenience of the selected respondents. All interviews took place after school, in a quiet location in the school building. Interviews were recorded and then transcribed. All respondents had an opportunity to review their transcribed responses to validate the data collected.

A short summary of each of the five interview respondents, using data taken from their own interviews, is included below. Names have been changed to random initials to protect their anonymity.

RH has completed two buddy projects over the course of this inquiry. Both projects used technology, in different ways, to engage learners in their inquiry into aspects of social responsibility. RH is quite comfortable with instructional technology, but is always interested in learning more. For each inquiry buddy project, she focused on a new aspect of technology that she wanted to incorporate into her teaching. However, what is exciting for her is the amount of critical thinking she has now incorporated into her primary classroom in other subject areas. She has worked with all aspects of the school-based inquiry question. In addition, she has gone on to focus on self-regulation
and learning by reading, *Calm, Alert and Learning* by Stuart Shanker (2012) and incorporating his language into her teaching.

CK is in the process of completing her second buddy project. Both buddy projects have involved technology as a means of displaying learning. For her, the most prevalent areas of professional learning within this inquiry process have been in the areas of instructional technology and assessment for learning strategies. “For me it is refreshing my own teaching . . . I always want to be a learner. When I stop being a learner, I know it is time to quit.” “I got so excited about what happened with the kids last year and all the spin off stuff that we were able to learn and the cool stuff we were able to do with technology . . . that kind of success fuels you.” To help expand her own personal professional learning in the area of inquiry CK read and shared ideas from *Leadership Mindsets* by Linda Kaser and Judy Halbert (2009).

KB is in the process of completing her second buddy project. Both buddy projects have involved technology as a tool for learners to display their learning. This teacher admits that professional learning which focuses on instructional technology is always useful for her because technology is not her area of comfort or expertise. Where she has had her greatest professional learning is in the area of critical thinking. “I have restructured my teaching of some lessons so that it provides a lot more opportunity for the kids. I think it is important to make sure the kids see themselves as thinking people.”

LJ has completed her second inquiry project. Both projects used technology as a tool to engage learners in their topic. Her area of greatest professional learning was in social responsibility and self-regulated learning. In addition to our school-based inquiry, LJ has engaged in different inquiries with her students. One on-going inquiry is related to
self-regulated learning and learner engagement. With reference to our Social Responsibility, Self-Regulated Learning and Resilency Pro D Day she says, “I was interested in the language and specifically to help students increase their language and awareness of what self-regulation is.” She has put together a booklet and is meeting weekly with a group of students to work on self-regulation strategies.

BG has completed her second inquiry project. Both projects used technology as a tool to display student learning. BG focused her learning on the instructional technology aspect of our inquiry, by incorporating technology use into her classroom. She has also focused on assessment for learning strategies by creating and using criteria with her students more often. She finds herself encouraging more questioning and is enjoying taking the learning in different directions depending on what they are reading and what the students want to know. She was most excited about the level of learner engagement while working with the buddy classes.

The transcribed interviews from these participants were analyzed using an axial coding procedure to pull out recurring words, phrases and themes that related to the inquiry. This coding process involved several readings and re-readings. Initial codes, key words and phrases used for the data analysis of the interviews are outlined in Figure 4.
### Coding of Data

<table>
<thead>
<tr>
<th>Professional Knowledge and Skills</th>
<th>Coding Words/Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Responsibility</td>
<td>HACE (Health and Career Education), SR (Social Responsibility) Rubrics, SR (Social Responsibility) Curriculum, resilience, SEL (Social Emotional Learning), MindUp,</td>
</tr>
<tr>
<td>Information Technology</td>
<td>LCD projector, digital cameras, Macs, iMovie, Podcast, YouTube, Internet, web, computers, comic life, technology, Smartboard, interactive projector, Notebook Program, iPads, document cameras, Comic Life, Photobooth, Google</td>
</tr>
<tr>
<td>Assessment for Learning</td>
<td>Modeling, scaffolding, project-based learning, peer assessment, reflection, peer feedback, questioning, criteria, rubrics</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>Critical challenges, deep questions, TC2, tools for thought, preload</td>
</tr>
<tr>
<td>Problem-solving</td>
<td>Questioning, solving problems, working through problems</td>
</tr>
<tr>
<td>Self-regulated Learning (SRL)</td>
<td>Motivation, learner engagement, language, levels, focus group, booklet, readiness to learn,</td>
</tr>
</tbody>
</table>

### Resources

<table>
<thead>
<tr>
<th>Time</th>
<th>Collaboration</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Collab. time, collaboration time, time, community of learners, share, planning, job-share partners, choice, learning from others,</td>
<td>Professional Development Days</td>
</tr>
<tr>
<td>Tools</td>
<td>Buddies, partners, pairs, teams, safe, engaged, working together, sharing, celebrate</td>
<td>Pro D days (Technology, Critical Thinking and Self Regulated Learning, SEL/HACE), time, workshops, district day, Adrian Gear, more tech training</td>
</tr>
<tr>
<td>Technology</td>
<td>Access to technology (projectors, document cameras, Macs, iPads, programs) PAC purchases, administration support, TC2</td>
<td></td>
</tr>
<tr>
<td>Template</td>
<td>Scaffolding, outline, process, timeline, guidelines, commitment, planning, structure,</td>
<td></td>
</tr>
</tbody>
</table>

### Inquiry

<table>
<thead>
<tr>
<th>Common Ground</th>
<th>Goals, vision, working together</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inquiry projects</td>
<td>Buddy projects, reflect, celebrate, share</td>
</tr>
<tr>
<td>Inquiry question</td>
<td>Cycle, evolve, grown, change, deepen</td>
</tr>
</tbody>
</table>

*Figure 4 - Initial axial coding of key words and phrases: Codes taken from interview data regarding the experiences of teachers participating in a school-based collaborative inquiry process.*
Throughout the coding process, I was looking for evidence that actions or factors, put in place by myself (the researcher and the Coordinator of Inquiry) as part of the school-based inquiry, had enhanced teacher professional learning in the areas of our inquiry: assessment for learning, instructional technology, problem solving and critical thinking skills, self-regulated learning, and the BC Provincial Curriculum for Social Responsibility. These actions included: school-based inquiry; formal professional learning opportunities; collaborative partners; collaborative time; multi-age buddy classes; buddy class inquiry projects; project-based learning; leadership; and access to expertise.

Once coding was complete, it became apparent that words and phrases could now be condensed into three main themes: professional knowledge and skills, resources, and the inquiry. As a result of this synthesis, the fourth theme of building adaptive capacity emerged. The fourth theme, building adaptive capacity, was supported by words and phrases (refer to Figure 5) which would indicate that professional learning was happening, knowledge and skills were being developed, energy was being created, and important things were happening in the school community.

| Building Adaptive Capacity | Excitement, passion, energy, professional growth, professional learning, evolving, success, possibilities, ideas, interests, integrating, appeal, questions, success, create, valuable, realistic, motivate, go further, model, concrete examples, conversations about learning, personal time, enthusiasm, to know, professional reading, getting better, improving, ah ha moments, realizations, changing language, encouraging, thinking, creative thinking, critical thinking, try, build success, create, evolve, backward design, growth, shift from teacher centered to learner centered, another level, moving forward, valuable, engaging, more learning, cycle, expand to other curricular areas, ready, learning from peers, recognition and support from administration and district, communication, satisfaction, life long learner, proud, risk taking, building on last cycle, what is next?, excellence, change in teaching practice, momentum, share, integrate into present practice, learner engagement, freedom to explore, common goal, positive atmosphere, community, evolving, practice, questioning, criteria, work in progress, explore, cooperative atmosphere, rewarding, pride, life long learning |

*Figure 5* Emerging theme: Building adaptive capacity. Key words and phrases were taken from interview data regarding the experiences of teachers participating in a school-based collaborative inquiry process.
I then looked at the themes, words and phrases to synthesize and simplify into four key areas: Inquiry, Resources, Professional Knowledge and Skills, and Evidence of Building Adaptive Capacity (Figure 6).

<table>
<thead>
<tr>
<th>Coding</th>
<th>Key Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inquiry</td>
<td>Common Ground/Goals, Inquiry Projects, Inquiry Questions, Cycle</td>
</tr>
<tr>
<td>Resources</td>
<td>Collaboration Time, Buddy Projects, Technology, Tools, Professional Development Days, Template, Expertise, Leadership, Professional Books</td>
</tr>
<tr>
<td>Professional Knowledge and Skills</td>
<td>Social Responsibility Curriculum, Information Technology, Assessment for Learning, Critical Thinking, Problem Solving, Self–Regulated Learning</td>
</tr>
<tr>
<td>Evidence of Building Adaptive Capacity</td>
<td>A school community that learns: excitement, growth and learner engagement</td>
</tr>
</tbody>
</table>

*Figure 6* Summative coding: a synthesis of axial coding data from interviews conducted regarding the experiences of teachers participating in a school-based collaborative inquiry process.

Finally, in order to provide a clearer picture of the four main themes with respect to our school-based inquiry, I returned to the interview data to find direct quotes from interview participants. Samples of their responses are included below:

**Professional Knowledge and Skills**

“There has been lots (of professional learning) – assessment for learning – things we have been working on with critical challenges. I think it has really shifted things – really shifted how I think about the things the kids are doing in the classroom – way less me and way more them.” CK

“Because I am more aware of critical thinking, I can guide them, but I can also give them more opportunities to practice it. I didn’t realize young kids could do more than I was actually giving them credit for.” RH
“I’ve used them (the social responsibility rubrics) just since we started the inquiry. I didn’t use them before for social responsibility. I think it helps them (the students) to understand it and it also helps them to focus on themselves and where they really are at (on the rubric).” KB

“I focused on the self-regulation, within the critical thinking umbrella. I was interested in the language and specifically helping students increase their language and awareness of what self-regulation is. The second step is for students to become aware of their own level within that.” LJ

“The students see me learning and they know we can all learn.” BG

**Resources (Time, Tools and Expertise)**

Technology - “You have to have it or have access to it.” RH

Time - “Having the time to get together to create something I was actually going to use – that was really valuable.” RH

Leadership - “I am really proud of us. I am really proud of us for taking risks, for moving forward into things we don’t know anything about and just kind of going – OK, let’s wade in and see what happens – and I don’t think it would have happened without your leadership.” CK

Professional Learning Opportunities - “I think the Pro D has been dead on to what we need in order to support us moving forward and taking it to another level.” CK

Collaboration Time - “It is good to have some time to sit down and really talk it through, think it through, and get it set up in a document so that we make some commitments about time.” CK

Expertise - “Your knowledge base has been amazing; you were so flexible and willing to help at anytime. I just appreciate your response and also your approach – that you are not in anyway making people feel like they should have this together. You are so accepting of people’s knowledge levels and expertise and fear levels and confidence levels and all of that. You are willing to take a person where they are and help them get to the next step of where they need to be and that is a great example of what a teacher does.” LJ

Pro D and Technology - “The Pro D sessions fit with our inquiry. The Macs. You need to have the technology in the classroom, because when you have it you can learn to use it. You need to have the resources available.” BG

Collaboration Time - “I appreciated the time with the other teachers to plan. It was nice to have that time during school.” BG
Trust - “We are a very supportive staff and we really jump in to help each other out. There is trust.” BG

Inquiry Process

“I felt that many of us got really motivated at our Pro D sessions, because we all shared a common goal and we all had an enthusiasm for the inquiry.” RH

“It’s about the gathering of energy, it started with this little tiny kernel and it is gaining energy, it is gaining momentum.” CK

“I like the fact that we did it once and then we were able to repeat it so we would know what we were doing, that helped – the second time around.” LJ

“This year was more beneficial than last year. I have my Mac now, so I really got to explore the Comic Life program and what the children can do.” BG

Building Adaptive Capacity

“This (inquiry) has incorporated critical thinking, social responsibility, technology, assessment for learning and self-regulated learning, and everyone is working towards a common goal and I think that is really positive. It creates a certain feeling around the school, the kids understand the same language and the expectations – we aren’t just one room – this is our school, this is what we believe in and this is what we are trying to do. I think it is really positive – so thank you.” KB

“I think this has changed the way I do other teaching too – at the university and at the school district level.” CK

“I’ve integrated into Math more critical thinking and partner work. I’m finding it is encouraging discussion, less anxiety, more decision-making and the talking out of ideas. They have to share their strategies and come to a decision about which one they think is more efficient.” RH

“It is a more cooperative atmosphere in the school with all the buddy classes moving around and people sharing the technology. We really support each other. There is always something to learn and that is what makes teaching so important and rewarding.” BG

About peer feedback, “and then they made some changes, that was the best – that’s when it get’s exciting, when they are involved, not just because we are
asking them to be involved but that they actually feel a vested interest in doing their best and making it better.” KB

In summary, to gain a better understanding of the experiences of a particular group of teachers as they moved through a collaborative inquiry process, I collected data using: a Professional Learning Needs Survey at the start of the inquiry process; three sets of Professional Development Day Reflections, one from each ProD day organized to support the inquiry; and five in-depth interviews with teachers who had completed at least one inquiry project. This particular research design significantly contributed to the amount of detail and richness of the data collected. Further discussion of the processes and data will follow in Chapter 5.
Chapter 5: Summary, Discussion and Conclusions

This action research project, Teacher Learning through Collaborative Inquiry, was built using the interconnected themes of current theory on educational change, collaboration, inquiry and teacher professional learning. The elementary school in this study is currently completing its second year of their school-based collaborative inquiry cycle. To better understand the scope and depth of this project, the discussion will focus on the steps or actions taken, and the research supporting the particular choices made by myself, the researcher.

Appreciative Inquiry and Developing an Inquiry Question

Our school-based inquiry question was developed after two appreciative inquiry processes. The first process was a school/community-wide, district supported, visioning process. At the same time, the entire school district was embarking on this visioning process, collecting visions from every school and school support operation with the final outcome being one district wide vision. There were various levels of engagement with this process; some schools engaged at a minimal level, while others, like our school took the time to work through the process fully. Our principal, fairly new to our school, explained that she had noticed we didn’t have a lot of energy or activity devoted to our posted school goals, so maybe it was time to revisit the goals, and we could use this visioning process to help with our goal setting. It made sense and we engaged in the process. Once this process was complete and our school vision was made public and visible, we were able to take some pride in what we had completed. This is where my action research comes in.
How do we move forward with our newly created vision? The school district had a plan. Each elementary school principal was asked to seek applicants for a school-based Coordinator of Inquiry. I applied for and was awarded the COI position, which included .1 FTE (2 hours) release from the classroom each week. The purpose of this position was to facilitate and support the creation of a school-wide inquiry question, to help the school embark on the inquiry process, and to support teachers by providing classroom coverage while teachers met collaboratively. All of this was seen as a way to help teachers move forward in their own thinking and learning in support of the needs of our students.

Fortunately, this position required an in-service day with Drs. Linda Kaser and Judy Halbert. The focus of the in-service was the spiral of inquiry, the changing needs of the 21st century learner, and innovations in education. This then led to my application and enrollment into graduate studies in educational leadership and consequent course work. Because of the course work that I completed that summer with Drs. Kaser and Halbert, I was prepared to begin the creation of an inquiry process with my own school staff.

As for the creation of an inquiry question, my administrator and I had an in-depth discussion about the needs of our school and the needs and possibilities for teacher learning in our school, and we came up with many ideas. However, I had a clear understanding that if the staff was going to support a school-wide inquiry question, then that question needed to come from all of us, the entire staff (Kaser and Halbert, 2012; Sparks, 2002; Wheatley, 2009). I could bring ideas, needs and possibilities forward for discussion, as my school’s COI, but the ultimate decision about our inquiry had to come from all of us and needed to be seen as important to our teaching (Hargreaves and Shirley, 2009; Timperley, 2011).
With the support of my administrator, I facilitated a second appreciative inquiry process with the purpose of determining a school wide inquiry question, narrowing our focus within our vision. This took place at a Pro D Day, prior to the start of the school year. We planned carefully (Kaser and Halbert, 2009; Sparks, 2002), ensuring that teachers were provided with the background knowledge they might need to be open to a new way of thinking and enacting a school wide goal. I believe teachers engaged in this process because of the trust and respect they had for myself and our principal, because we were open, focused on learning, and we were able to display an understanding of what we were hoping to accomplish (Fullan, 2006; Kaser and Halbert, 2009; Timperley, 2011).

Next, I carefully explained that collaborative time (approximately two hours per week) was to work on a school-wide inquiry question, and only those teachers who participated would have access to the collaborative time during school hours. I reminded them that the school district regularly offered professional development that was focused on district directives, that the Pro D was usually after school, and was offered in a location that was inconvenient to the majority of our school’s staff. This school-based inquiry and collaborative time would allow us to choose our own professional development (which we are now calling professional learning) and we would have school time, on location, with a buddy teacher and buddy class, to support it. Finally, we decided as a staff that this process would lend itself perfectly to buddy class pairings, which some of us already participated in, but other staff wanted to be part of. So it was decided that we would all have a buddy class and we would work on a buddy project, within the parameters of our inquiry. We spent the majority of our August Pro D Day looking at what we, as a school,
were good at, and then what we wanted for our students. We sorted, prioritized and then they left it with me to compile.

Using the data we had created on that Pro D Day, I wrote and rewrote the school-based inquiry question. I shared it with my administrator and then with staff. Together we adjusted, tweaked and came up with our question. Throughout the question building process, I considered the varying levels of teacher experience and expertise and attempted to create a question that would differentiate based on our individual needs (Collinson et al., 2009; Kaser and Halbert, 2012) and invite teachers to begin where they felt comfortable. Although there were a lot of components to the question, I felt it was necessary to work collectively on one question, because a school-wide focus could have the potential for greater success (Fullan, 2006). The inquiry question was big, but it encompassed and represented our collective needs as a staff.

**School-Wide Inquiry Question**

Will the use of the social responsibility performance standards in conjunction with IT (Instructional Technology) and Assessment for Learning strategies, help students demonstrate a greater sense of engagement in their own learning and increasingly become better problem-solvers, critical thinkers and self-regulated learners?

**Making the Inquiry Question Visible and Creating a Place to Start**

I used the first weeks of Coordinator of Inquiry time to promote the inquiry question and process. I created coloured handouts for the staff, a support binder, and a large, colourful bulletin board. Our principal collected professional books for sharing and set up a display in the office. Next, I handed out class sets of Social Responsibility Rubrics, based on the BC Ministry of Education Social Responsibility Quick Scales.
There are three different grade levels of rubrics: K-3, 4/5 and 6/7. The K-3 rubric was rewritten by two primary teachers in our school, and the Gr. 6/7 rubric was rewritten by two grade 6/7 classes. Older students were then paired with the younger students to help them complete the rubrics. This process served a few important purposes. First, it allowed teachers and students to become familiar with the language and aspects of the Social Responsibility Curriculum, which was the core of our inquiry. Second, it brought the inquiry focus to everyone in the school. Next, it provided some baseline data for the teachers as to where their students were with social responsibility. Finally, it provided a safe and comfortable way for teachers to begin the inquiry process.

**Collaborative Buddy Projects/Project-based Learning**

The next step was to get started on the projects. The design to have teachers work together, collaboratively (Barron and Darling-Hammond, 2010; Borko, 2004; Butler and Schnellert, 2012; Clarke and Hollingsworth, 2002; Fullan, 2006; Hargreaves and Shirley, 2009; Kaser and Halbert, 2009; Senge et al., 2007; Sparks, 2002; Timperley, 2011; Wheatley, 2009), in a project-based learning format (Barron and Darling-Hammond, 2009) was foundational to this inquiry. We had fourteen divisions and staff had agreed that I could fold the division list in half and make the pairings from there. I then created a template to scaffold the buddy class projects. I wanted teachers to have something to work from, a step-by-step process to help guide their thinking and process (Barron and Darling-Hammond, 2010). I intentionally used assessment for learning strategies (Wiliam, 2011) to build the template which teachers used to plan their projects. I wanted teachers to get together during the collaborative time, explore their interests and areas of
learning (Sparks, 2002), design a project using the template, create criteria, create a model for the students and then go off and work with their students. I was working on the premise that if teachers engaged in the process, they would then have a better understanding, deepening their learning, in the areas of our inquiry (Timperley, 2011). The collaborative time was important because it gave teachers the time to work together and move their learning forward (Fullan, 2011; Kaser and Halbert, 2009). Teachers were quick to sign up for collaborative time with their buddy class partners. A post-collaborative time check-in, with teachers, indicated that they appreciated and valued the time being made available to them. I next provided teachers a structure to work within (Easton, 2008; Fullan, 2006; Hargreaves and Shirley, 2009; Timperley, 2011), included options and ideas in all the areas of our inquiry, but left the actual project development itself up to them so that it would be directly relevant to their own learning (Timperley, 2011).

All buddy classes got together for buddy activities throughout the year. However, not all buddy class activities were part of the inquiry process. As with any new idea, you have those people who are seemingly fearless and are ready to jump in, the early innovators, and those who wait and see what will happen. And that is precisely what occurred the first year; three buddy partnerships were quick to get started on their projects, with one of the two partners taking the lead and creating the excitement. Therefore, six buddy classes got off to an early start and two more buddy classes joined in after Christmas. A total of four inquiry projects, in line with our school-based inquiry, were completed.
The first year of the inquiry took place in an unstable and seemingly unsupported environment. We are a mid-sized elementary school, with less than 20 FTE teaching positions. Initially, we started the year with three new and temporary staff to cover maternity leaves and a serious illness. During the course of the year, three more teachers went off on maternity leave, one returned from maternity leave and two more staff members went off on short-term disability. However, our principal continued to take an interest in what we were doing, offered to provide coverage for collaborative time, and provided as much instructional technology support (MacBook computers, LCD projectors, and document cameras) as the budget could afford. Our administrator was providing the necessary support (Fullan, 2011) for our inquiry, and was keeping the school district staff up-to-date on our progress. I was fortunate that our school district was already moving in the direction of inquiry, with a Director of Learning Services leading the Coordinators of Inquiry Program, and a Principal of Innovation and Inquiry recently hired. Furthermore, my administrator supported the vision and saw a real need for a common inquiry which included all staff. This was an indication of the importance of support for our school-based inquiry at different levels of the school system (Clarke and Hollingsworth, 2002; Fullan, 2006; Kaser and Halbert, 2009; Senge et al., 2007; Sparks, 2002; Timperley, 2011). Leadership and support for this school-based inquiry was present at the teacher level, school level, school district level, and at the academia level. My professors, Drs. Kaser and Halbert, were incredibly supportive in this process, providing instruction, feedback and direction to other resources.
Changing Pro D Days into Professional Learning Opportunities

With the support of staff who were keen to get started on our school-based inquiry, I planned Pro D Days to support the areas of our inquiry. This was a bit sticky at first. Initially there was a disconnect for some staff members who were looking for the traditional “drive by” model (Senge et al., 2007) of Pro D as opposed to the support of professional learning in the areas of our agreed upon inquiry that I was offering. I persevered and organized two Pro D Days, (Assessment for Learning, and Critical Thinking and Technology) which were made available to all school staff, were well attended, and well received.

Reflections on the First Year

That first year we managed to complete four inquiry projects involving eight buddy classes out of a total of 14 divisions. At the end of the school year, we met again as a staff to share our projects and reflect on the school-based inquiry. We decided that we had all made progress. However, there was still lots we wanted to try and learn, and we felt that a second cycle would help us deepen our learning. At this point, I had a discussion with my administrator about the momentum of the inquiry within our school. Although we agreed that the inquiry projects had been quite successful, we felt that the momentum with teachers was not large enough for this inquiry to continue on by itself. For example, if the time, effort and leadership (Fullan, 2011) I was directing towards it were not able to continue, if I were to step down from COI, if the funding for COI was removed, or if I were to move to a different school, we felt that the school-based inquiry would be unlikely to continue.
Prior to the end of the school year, I had the opportunity to share our school-based inquiry, our inquiry projects and our inquiry reflections with our staff, the other school district COIs and elementary school principals, school district principals, and my MEdL cohort. In turn, our school-based inquiry was shared with our superintendent, and then with the BC School Superintendent’s Association. Our inquiry was beginning to create a buzz of excitement outside of our school, and this helped me build excitement and momentum for a second cycle of our school-based inquiry.

Second Cycle and Learning Needs Survey

At our second August Pro D Day, we had all of our maternity and medical leave teachers back, and all positions were filled with permanent staff. Staff were introduced or reintroduced to our school-based inquiry through the Pro D Day presentation. I was able to provide examples of how our professional learning was being enhanced by our inquiry, and vice versa, and put forth a proposal to staff to commit one half of each of our three upcoming Pro D Days, to support our professional growth in the areas of our inquiry, which the majority of staff agreed to. Further, I asked staff to participate in an anonymous ‘Learning Needs Survey’ to help us to determine the areas of our inquiry that we should focus our professional learning on, how they envisioned their personal use of collaborative time, and what types of resources (time, tools, and expertise) they felt they needed access to.

The Learning Needs Survey proved to be a powerful and useful tool. It served a number of purposes in this inquiry. The first was to provide concrete evidence to direct future Pro D Days and other professional learning opportunities. The previous year, when
I was first planning a technology focus Pro D Day, our Pro D chair indicated that teachers on staff were not interested in participating in technology based Pro D. This year, armed with the data regarding staff learning needs, it was quite easy to organize and plan all our Pro D Days in advance. Second, it helped teachers realize the scope of our inquiry question simply by the large number of choices available on the survey. The survey neatly and succinctly laid out all of the components, and teachers anonymously indicated their personal areas of interest with regards to professional learning. Third, questions about collaborative time and use of collaborative time provided teachers with clarity and options as to the variety of ways the collaborative time could potentially be used. And finally, it provided a framework for teachers to think about their own professional learning and how their own needs could better be met.

**Professional Learning Opportunities**

Results from the survey directed the planning of the upcoming Pro D Days. All respondents had indicated technology as a learning need, therefore September’s Pro D focus was on Instructional Technology. As a District Mac Trainer, I felt comfortable planning that half day workshop, and I used the teachers’ needs, as indicated by the survey, to shape the learning of the day. October’s Pro D focus was Social Responsibility, Self-Regulation and Resiliency. This workshop was presented by two district specialists and was opened up to other district staff and student teachers. The final half day Pro D Day in November focused on Critical Thinking which I planned and facilitated, with the support of another staff member. The morning was a review of critical thinking strategies, examples of critical thinking challenges, and an exploration of the The Critical Thinking
Professional Learning Through Collaborative Inquiry

Consortium -TC² website. As part of my data collection, I asked teachers to complete a Professional Development Reflection at the end of each Pro D Day. To help the teachers deepen their thinking about their own professional learning, I used the questions: What are you learning? How is it going? Where to next? (Timperley, April 2011), and provided an extra space for further comments and reflections.

In addition to our own school Pro D Days, many of our staff also participated in off-site professional learning opportunities. First, our district offered a series of four dinner workshops on Critical Thinking and Self-Regulation. Initially, seven teachers and our administrator registered; five of us attended the majority of the workshops. Another opportunity was made available to staff in the form of a Metro Series workshop with Dr. Damian Cooper. The focus of this series of all-day workshops was assessment strategies, assessment for learning and learner engagement. I had the opportunity to attend all three workshops, with a different staff member accompanying me each time. Support for this series was provided on two levels: the school district paid for the series and our TOC time was paid for by the school. These workshops provided another example of support for teacher professional learning from different levels of our school district organization (Fullan, 2006; Sagor, 1991; Timperley, 2011).

Collaborative Buddy Projects/Project-based Learning Year Two

New buddy partnerships were chosen this year, essentially by folding the school divisions list in half and removing the one teacher who indicated she would not be participating. Those of us who had participated last year all had different teachers to work with. As part of the learning needs survey, all staff members were asked if choosing their
own collaborative partner was important to them, only one teacher indicated yes, and that teacher ended up working with someone she was happy to be with.

As this was our second cycle, teachers were much quicker to jump in to sign up to use the collaborative time to plan their buddy class projects. I would even go so far as to say that the collaborative time was in high demand. Our principal and librarian had worked out a new schedule so that the librarian would be able to help me cover the teachers’ classes while the teacher partners met with each other. We were also able to cover more classes and provide more time by: holding a mini sports day afternoon; having the principal teach buddy classes a flash mob dance; and setting up ‘Jump Rope for Heart’ skipping stations. We were finding ways to create more collaborative time (Kaser and Halbert, 2009).

Those teachers who had not been involved last year, due to maternity leave or illness, had been able to see the buddy projects from the first year of inquiry, so they had an idea of the possibilities open to them. Teachers who had already completed a project in the first year also had ideas of where they wanted to take their own learning. The atmosphere was one of confidence and possibilities; fueled by last year’s success, many teachers were motivated to continue their learning (Guskey, 1986; Timperley, 2011).

By March of this year, six buddy classes had completed three different projects, and eight other buddy class projects were in progress. The teacher who initially indicated she would not be participating, has since become part of a job share. Having completed a project with my own students’ buddy class, I invited her new job share partner to be part of our school-based inquiry and partner with my class. This teacher was happy to be part of what were doing, and now every class in the school is involved, in different ways, in
our school-based inquiry. One buddy class partnership is using their teacher collaborative
time to build a blogsite to keep track of the progress of their buddy class inquiry. All
buddy projects have social responsibility as the foundation, and teachers are using the
other components of the inquiry to varying degrees in their projects: critical thinking and
problem-solving strategies; assessment for learning strategies; and instructional
technology. Teachers, and other adults in the school, frequently comment on the high
level of learner engagement while the students are independently working with their buddy
class partners.

Teacher Interviews and Discussion of Coding of Interview Data

To delve more deeply into the different aspects of this project, Teacher
Professional Learning Through Collaborative Inquiry, I conducted five interviews with
teachers who were close to completing or who had already completed inquiry buddy
projects under the umbrella of our school-based inquiry. All five of these teachers are
experienced teachers with between 17 and 36 years of teaching service. The interviews
provided a very rich and detailed look at their individual thinking.

Using the complete set of interview data, I was interested in building a better
understanding of four areas of the project: 1) Resources (time, tools and expertise); 2)
Collaboration Time; 3) Professional Knowledge and Skills; and 4) The Inquiry Process.
After coding all the transcribed interview data using these four themes, I noticed that
although the theme of ‘collaborative time’ was foundational to the project, it was actually
part of the ‘resources’ theme, because it could be thought of as time, support and/or
expertise. I now had three main themes: 1) Inquiry; 2) Resources; and 3) Professional
Knowledge and Skills. What is important to note is the amount of crossover and
connection between these three themes, which would seem to indicate that all three themes were part of a greater whole. I was looking for a way to connect these themes, so I cycled back to determine what I was truly hoping to accomplish through this whole process. The fourth theme, of building adaptive capacity, then emerged. It was my hope that through my actions, my leadership and direction, that I could facilitate an increase in the adaptive capacity of our school. I recoded the interview data looking for evidence that we, as a staff, were building adaptive capacity and I was surprised by the quantity and quality of words and phrases I was able to assemble (refer to Figure 5). If the five interview participants were the only ones in the school who were building adaptive capacity out of the 13 classroom divisions, I could conclude that we were well on our way to becoming adaptive experts. But these five teachers (if I include myself – six teachers) are only a sample of what has been happening in 13 divisions. I know that there are other teachers, still in the process of completing their school-based inquiry buddy projects, that are just as enthusiastic and excited about their own professional learning as the teachers I was able to interview. Having said that, I must also acknowledge that there are a small number of teaching staff who have not had the opportunity, or the desire, to engage in this process.

**Recommendations**

Using the data provided by interview respondents and my own personal observations, I recommend that we continue to support inquiry with collaboration time and buddy class projects. Teachers and students seem to be genuinely enjoying the buddy projects. I know that my upper intermediate students are always at their best when they are working with their buddy partners.
For these past two inquiry cycles, all teachers who wished to be included were included in the buddy class process and buddy classes were randomly assigned. I’d like to find a way to support teachers who want to work together because they have a similar focus or passion. However, this needs to be done without excluding any teachers or classes; larger collaborative groups of three or four teachers could be one solution.

As some of my colleagues commented:

“I would love to do an inquiry with a partner of my choice.”

“Maybe the next step – we look around – who do we think we could work with, want to work with.”

Another area of concern, with relation to collaborative time, is job share assignments. Job share teachers working with full time teachers have had issues with continuity. If job share teachers could find a way to share their learning and progress with each other it would be beneficial to their full time, collaborative partner. Two interview respondents point out the issues related to working with teachers who job share:

“If you don’t have the partner’s involvement, it decreases your enthusiasm so you are enthused and then all of a sudden you are not enthused because now it has become more like work.”

“It is a bit trickier for me having job shares. . . because each time you have to revisit what you did each time. Both are great people so the advantage is three different people’s ideas rather than just two – it probably balances out.”

Finally, because we have focused on the general topic of social responsibility as the core of our inquiry the last two years, I’d personally like to see us tackle a specific problem or concern in the school, something more complex, complicated and based on sound evidence (Kaser and Halbert, 2009). Social responsibility as a topic is incredibly important, and it was a safe and comfortable place to start an inquiry - who is going to argue against the fact that we need more respectful citizens? However, now that many
teachers have zeroed in on personal areas of professional learning, the new inquiry question needs to be open enough to allow these teachers to continue to move forward in their own learning. I think we are up for the challenge.

**Validity, Generalizability and Implications for Future Research**

**Validity**

As a teacher in this school, a participant in the inquiry, the Coordinator of Inquiry for the school, and the action researcher responsible for the creation of this project, I am completely integrated into this process. Furthermore, having worked with most of these staff members for more than five years, some for as many as 15 years, I have developed valuable, trusting relationships with most of these teachers, and I truly believe they are supportive of my personal success. Having said that, I do not believe that these teachers would have invested the large amount of time and energy that they have, just for my own success. I do believe, in some cases, that I provided the safe excuse to give the inquiry process a try.

The Professional Learning Needs Survey only included professional learning topics within the scope of our school-based inquiry. This provided me with a clear idea of where teacher learning needs were in relation to our school-based inquiry question, without teachers feeling badly because they thought they should know something and didn’t want to admit that they didn’t. I believe it was helpful for teachers because, in some cases, the teachers weren’t aware of what they didn’t know. For example, some of the choices made available in the survey, like wikis, they may not even have heard of.
Because the Professional Development Reflections were anonymous, teachers should have felt more open to comment on their experiences from the Pro D Days. However, given that there were usually between 14 and 20 people at any Pro D Day, that perhaps respondents may have felt that I, as the researcher, would have been able to pick out who had written what, so they may have been more careful with their responses.

When I was coding data from the Professional Development Reflections and interviews, I was coding for a specific purpose which was to pull out the themes of this research: teacher learning; inquiry and collaboration; and resources (time, tools and expertise). I was looking for evidence of success in these areas, looking for the words and phrases that would support the themes I had chosen. As a result, it is possible that there are other aspects of teachers’ experiences that are not represented here.

Interview participants consented to be interviewed regarding their professional learning and I only interviewed respondents who were completing their second cycle of the inquiry. Those interview participants may very well be the ones who were willing to talk about their professional learning because they felt comfortable that they had something to contribute. Thus, participants who hadn’t completed a school-based inquiry project were not represented in the data. Once interviews were transcribed, I asked the interview respondents to review what I had transcribed to ensure that I had accurately transcribed and represented their voice in my research. Interview participants included three primary and two intermediate teachers. Because my voice and experience is also represented, and I am an intermediate teacher, I feel there is a good balance between primary and intermediate involvement in the research data. One last point to make about the interviews relates to the BC Teacher’s Federation Code of Ethics. Due to this Code of
Ethics, no negative or derogatory comments would be able to be made about other teachers participating in this process, including our collaborative buddy class partners. This may have affected the tone of some of the responses.

**Generalizability**

Generalizability is a huge question mark for this study. Because there are now Coordinators of Inquiry at every school in our district, it would be brilliant if the results of this study could be generalized to other schools. Very few schools have had the success we have experienced with this inquiry over the past 16 months. Furthermore, our school energy is bubbling and we are ripe for new resources, input and new experiences. The readiness and demand for instructional technology at our school is higher than it has ever been. Does the school district continue to support us, or do they direct their resources towards other schools in the hopes that the infusion of new resources will spark interest and help close the gap? I feel this research provides lessons to be learned and indications of directions to be taken by other schools. However, because of the unique set of circumstances that have come together in a timely fashion to help build the adaptive capacity of our staff and our school, it would be impossible to replicate these exact results.

**Implications for Future Research**

Finally, because this collaborative inquiry process was focused on teacher learning and not on educational change and student outcomes, I am unable to provide any statistical evidence that lasting educational change for the benefit of our student learners has occurred. I believe this process has had a significant impact on many of the teachers
in our school. I also believe that we are building adaptive capacity and that our student learners are directly benefiting from that. Therefore, future research should focus on learner success and evidence of lasting educational change as a result of a school-based collaborative inquiry project.

Conclusion

I found the inquiry process to be a highly effective way to engage teachers in new areas of professional learning. I believe that our school-based inquiry allowed us to go deeper into our own professional learning than we would have, had we merely decided that our goal was to improve social responsibility within our school. Data collected would suggest that this process has been deep and rich, providing myself and my teacher colleagues the flexibility to focus on our own professional learning within the parameters of our school-based inquiry.

All of the inquiry participant teachers had social responsibility at the core of their buddy projects. We all engaged in project-based learning using assessment for learning strategies such as using criteria, modeling, questioning, and peer feedback to varying degrees. Most of us used instructional technology, either as a significant part of our projects, or as a means to share projects with staff and students. A number of us also incorporated critical thinking strategies into our project design; while others spent more time with the research and language around self-regulation and learner engagement. My experience is consistent with Timperly’s assertion that, “Through engaging in ongoing cycles of inquiry and building knowledge, teachers develop the adaptive expertise required to retrieve, organize and apply professional knowledge” (2011, p. 11). Interview
respondents’ comments on the inquiry process suggest an overall transformative experience.

Resources were critical to this school-based inquiry process. The provision of collaborative time, through the support of a COI in our school was a key component of the success of this program. The staff and I felt that by providing us this time to use, in an inquiry of our own design, the school district was valuing our ability to make our own decisions about our professional learning and the needs of our learners. The multi-age buddy class system we chose to use set the stage for the effective use of collaborative time, creating a commitment to the inquiry process, and building a sense of community within our school. Support, leadership and expertise in both the process of inquiry and our focus areas of the inquiry were also essential. I believe that teachers valued my contributions, trusted me, and were willing to try the inquiry process because of that trust. Access to support and expertise, within our school and within our district, was significant and beneficial, especially in our second year of the inquiry. As instructional technology was one of the focus areas of our inquiry, having access to the technology and the expertise to help develop our knowledge and understanding of it was helpful in building our learning in this area. Interview respondents indicated time and again that the time, tools and expertise were all necessary to support our inquiry.

At the conclusion of the first cycle of our school-based inquiry, I commented that I didn’t feel that the inquiry process and the teacher learning within our inquiry had reached a place where it would continue without my leadership. Now, at the conclusion of the second cycle, I feel confident that the inquiry process and many of our staff’s engagement in professional learning will continue, in some form, so long as the other
factors such as collaborative time and access to resources are still supported. I do believe that leadership is still needed to help pull all the pieces together: the development of a new inquiry question; the logistics of partnerships and collaborative time; the organization of school-based professional learning opportunities; and the structure and encouragement to help those staff not as far along in the process as others. However, the process has momentum and there are more teachers on staff who now have the skills necessary to support the inquiry process. These staff members have developed adaptive expertise and are helping to build the overall adaptive capacity of our school.

In conclusion, I used the collective expertise of educational researchers, such as Fullan, Hargreaves & Shirley, Kaser & Halbert, Sparks, Senge, and Timperley to design and scaffold a collaborative inquiry process. I provided the leadership and expertise to support the inquiry in our school. I had the trust and cooperation of most staff members. I was supported by leadership and resources at the school level, district level and beyond. We had access to many of the resources we needed such as collaborative time, expertise and technology. As a result of all this, a two year collaborative inquiry process has breathed new life into teacher professional learning in our school.
**References**


Appendices

Appendix A: Buddy Project Template (example) ....................... p. 67
Appendix B: Professional Learning Needs Survey (example) ........... p. 70
Appendix C: Completed Survey Data ........................................ p. 74
Appendix D: Professional Development Reflection (example) ........... p. 79
Appendix E: Interview Questions (example) .............................. p. 81
Appendix A: Buddy Project Template

**School Inquiry 2011/13:**

Will the use of the social responsibility performance standards in conjunction with IT and Assessment for Learning strategies, help students demonstrate a greater sense of engagement in their own learning and increasingly become better problem-solvers, critical thinkers and self-regulated learners?

**Resources to help you shape your buddy project:**

- Social Responsibility Performance Standards
- Assessment for Learning Strategies
- Problem-Solving and Critical Thinking Strategies
- Technology Options List

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**Inquiry Question Buddy Project**

Date:

Teachers Involved:

Classroom Grades Involved:

Total Number of Students:

1. **Social Responsibility Aspect Chosen:**
   - Contributing to the classroom and school community
   - Solving problems in peaceful ways
   - Valuing diversity and defending human rights
   - Exercising democratic rights and responsibilities

2. **Focus within the Aspect Chosen – Buddy Class Inquiry:**

3. **Tools or Strategies you want to use:** Assessment for Learning and/or Critical Thinking and Problem-Solving and/or Information and Technology (IT)
4. The Answers to 2 and 3 - now become your “Learning Intentions”:
What are you hoping the learners will take away from this?

[ex. Students will demonstrate great respect for all people on the playground and be able to solve conflicts in peaceful ways. Students will be able to use the language in the performance standard rubrics. Students will be able to use Powerpoint to display evidence of their learning.]

5. Criteria – Student Generated and on Display
When you talk to the students about your focus, what are the key criteria you need them to bring up? It is good to have an idea of where you want them to end up so you can direct them.

For example: Playground conflicts

- listen to the other person
- try to see their point of view
- use the word “I” (I don’t like it when you kick the ball at me) instead of “You”
- Ask for help
- Recognize personal space
- Apologize when you do something unkind
- Pull words from rubric: FAIR, Correcting, treatment
6. **Product:** What are the outcomes you would like to see? Will you have evidence of assessment for learning (criteria, etc.)? Critical thinking – developing the tools to think critically (reflection)? Use of Information Technology?

Brainstorm ways to display or share their learning with other learners and other classes.

A page in a book, a podcast, a dramatic interpretation, a sentence with a picture, a word with a picture, an iMovie, a cartoon, a poster, a puzzle piece, a dance, a play, a piece of art, a Smartboard activity, a Powerpoint or Keynote slide, a Prezi, a collaborative display, a game, a comic etc., etc., etc.

Questions for thought:

How can you design your activity so that buddies can work together to create the outcome you desire?

Can you create the criteria with your students in kid-friendly language?

Are you able to create a sample of, or are you able to model the final product?

How can you support students during the process? What sort of feedback can be provided to them as they work on their project/activity?

Will students be able to use the criteria to assess their own work and/or the work of others?

What materials or support do you and your teaching collaborative partner and/or buddy class need to move forward?
Appendix B: Professional Learning Needs Survey (example)

The purpose of this survey is to gather background knowledge about our learning needs: the knowledge and skills, collaboration time, and resources that you feel we may need to support our school-based inquiry. Your responses may be used to determine the use of collaborative time and planning for professional development days. Furthermore, responses to this survey may be used to help me, Tara Fisher, reflect on professional learning as part of my Master’s thesis in Educational Leadership at Vancouver Island University.

This survey is anonymous and completely voluntary. Only surveys completed by staff members consenting to be part of my research study will be considered for use in my thesis.

Thank you in advance for your time and consideration.

Reminder of Inquiry 2012-2013

This is a reminder of the inquiry question our staff developed and agreed to work on throughout the 2012-2013 school year. Furthermore, this inquiry question serves the basis for the survey questions on the following pages.

**Will the use of the social responsibility performance standards in conjunction with IT (Instructional Technology) and Assessment for Learning strategies, help students demonstrate a greater sense of engagement in their own learning and increasingly become better problem solvers, critical thinkers and self-regulated learners?**

This survey is divided into three sections:

A. Knowledge and Skills
B. Collaboration Time
C. Resources
Section A: Knowledge and Skills
What knowledge and/or skills do you feel you would like to spend more time learning with respect to our school inquiry?

Please check all that are applicable – Large box/small circle/specific examples.

1. Social Responsibility
   - Social Responsibility Quick Scales
   - Social Responsibility Curriculum
   - Other _________________________

2. Problem-Solving
   - Problem-solving programs (Fin’s Friends, Friends, Second Step)
   - Problem-solving strategies
   - Other _________________________

3. Instructional Technology
   - PC programs (Word, Excel, Inspiration)
   - Mac Programs (iMovie, Garageband + Podcasting, iPhoto, Notebook, Pages, Comic Life)
   - iPad programs and Apps
   - Smartboard (Notebook program)
   - Digital Photo/Movie - capture and use
   - On-line programs – Prezi, web page creation
   - Social Media programs – facebook, twitter, blogging
   - Wikis
   - Operation of equipment: in-focus projector, document camera, Smartboard, Macbooks, iPad, PCs
   - Other _________________________

4. Critical Thinking
   - The Critical Thinking Consortium – TC2
   - Habits of Mind
   - Criteria for Judgment
   - Thinking Strategies
   - Other _________________________

5. Assessment for Learning/Formative Assessment
   - Learning intentions
   - Criteria for Success
   - Descriptive Feedback
   - Peer-mentoring
   - Questions that generate evidence

6. Self-Regulated Learning
Section B: Collaboration Time
This is time to work together for our own knowledge and skill building. This time will be organized and provided by the inquiry coordinator and principal.

7. Is having collaboration time (with one or more colleagues, during school hours) available to you for the purposes of this inquiry important? Why or why not?

________________________________________________________________________

________________________________________________________________________

8. If you answered yes to the previous question: How do you see yourself using collaborative time with your colleagues?

Please check all that apply:
  o Planning buddy class project
  o Creating examples to share with students
  o Creating criteria for the project
  o Exploring the social responsibility rubrics
  o Exploring the critical thinking consortium website
  o Exploring problem-solving curriculum
  o Experimenting with and exploring technology
  o Search for resources on line
  o Reading educational articles
  o Reading educational books
  o Attending professional learning opportunities
  o Organizing student presentations
  o Other:___________________________________________________________

________________________________________________________________________

9. Is it important for you to choose whom you are going to work with?

________________________________________________________________________

10. If the answer to previous question is yes, please provide some background information as to why:

________________________________________________________________________

________________________________________________________________________
Section C: Resources - Time, Tools and Expertise
Resources are the time, tools and expertise we sometimes need to help us accomplish the learning we want to do.

Please check any the following resources that you feel you may need to help you move forward with our inquiry projects.

11. □ Time to work with a collaborative partner or team

12. □ Access to expertise in:
   - Social responsibility
   - Problem-solving
   - Critical Thinking
   - Technology Use
   - Assessment for Learning
   - Self-regulation

13. □ Access to tools
   - The Critical Thinking Consortium (TC2) website
   - Social Responsibility Curriculum
   - Problem-solving Curriculum
   - In-focus Projector
   - Document Camera
   - Macbook Lab
   - iPad
   - Smartboard
   - PC Lab
   - Digital Cameras
   - Professional Blogs
   - Professional articles
   - Professional books
   - Other _________________________

14. Please Circle One:  Teacher  EA  Administration

Thank you for taking the time to complete this survey.
Appendix C: Survey Data

Date: January 2013 - Survey Results (August 2012) – 14 enrolling teachers, from 13 divisions – not all job share partners included and one division not represented

Section A: Knowledge and Skills
What knowledge and/or skills do you feel you would like to spend more time learning with respect to our school inquiry?

Please check all that are applicable – Large box/small circle/specific examples.

1. □ Social Responsibility - 9
   o Social Responsibility Quick Scales -1
   o Social Responsibility Curriculum -3
   o Other ___________________________ - 1 (resources)

2. □ Problem-Solving - 8
   o Problem-solving programs (Fin’s Friends, Friends, Second Step) - 3
   o Problem-solving strategies -2
   o Other __________________________

3. □ Instructional Technology - 14
   o PC programs (Word, Excel, Inspiration)
   o Mac Programs (iMovie, Garageband + Podcasting, iPhoto, Notebook, Pages, Comic Life) - 10
   o iPad programs and Apps - 8
   o Smartboard (Notebook program) - 5
   o Digital Photo/Movie - capture and use -8
   o On-line programs – Prezi, web page creation -6
   o Social Media programs – facebook, twitter, blogging -4
   o Wikis -2
   o Operation of equipment: in-focus projector, document camera, Smartboard, Macbooks, iPad, PCs -6
   o Other __________________________

4. □ Critical Thinking - 12
   o The Critical Thinking Consortium – TC2 -8
   o Habits of Mind -6
   o Criteria for Judgment -3
   o Thinking Strategies-3
   o Other _________ - 1 (introduction, examples and ideas)

5. □ Assessment for Learning/Formative Assessment - 13
   o Learning intentions - 7
6. □ Self-Regulated Learning -11

Section B: Collaboration Time
This is time to work together for our own knowledge and skill building. This time will be organized and provided by the inquiry coordinator and principal.

14. Is having collaboration time (with one or more colleagues, during school hours) available to you for the purposes of this inquiry important? Why or why not? Yes – 14  No – none
Comments: (10)
   a. Very important especially around same interest Daily 5, self-regulation. IT but going beyond how but onto doing (implementing) I really want to learn smartboard as there is lots of great grade related materials
   b. Yes, it helps to clarify thinking, fine tune projects, working towards excellence -having more than my own thinking
   c. I found it difficult to pin down my colleague(s) because of job share and their hours due to day care, so having school hours to meet helped
   d. Important to share ideas and thoughts if time during the day is allotted it says this is important, which it is.
   e. It takes time to figure out expertise – needs-skills of fellow staff member in balance to your own and our unique classroom dynamics during the current year
   f. Very important. Easier to connect with colleagues at a set time within the day. Resources are all available.
   g. Very! Need the space to think and discuss ideas and work through the process – life happens and people aren’t always available at the same time.
   h. Yes, otherwise I will never get to it.
   i. Yes, ability to get to work with another and their knowledge
   j. This would be helpful
   k. Yes – In order to dig deeper into our ideas and learning and learn from each other
   l. Yes, it allows time when, both/all parties to work

15. If you answered yes to the previous question: How do you see yourself using collaborative time with your colleagues?
Please check all that apply:
- Planning buddy class project -13
- Creating examples to share with students -8
- Creating criteria for the project -9
- Exploring the social responsibility rubrics - 6
- Exploring the critical thinking consortium website -5
- Exploring problem-solving curriculum - 4
- Experimenting with and exploring technology -12
- Search for resources on line - 4
- Reading educational articles -1
- Reading educational books -1
- Attending professional learning opportunities -9
- Organizing student presentations -6

a. Other:- 1 (Media Literacy)

16. Is it important for you to choose whom you are going to work with?

Yes – 1 No – 11 No Response – 2

Comments (9)
- a. I can work with everyone!
- b. Except a variety of ages is important
- c. Not necessarily although it makes a difference on how much extra work a person may have to do depending on partner’s interest and level of knowledge. I enjoy feeding off of a colleagues’ excitement and it can be less fulfilling if it isn’t really there.
- d. Sometimes it is good to get out of your comfort zone and “meet” new people and their ideas
- e. No – appreciate the folding last year – both teachers committed to project
- f. I would like to work with someone with expertise. I need a lot of assistance in this area.
- g. Either way but would prefer to be matched with someone who is passionate about professional learning.
- h. Grade level choice is important, not who the person is.
- i. Yes a good fit is critical to the success of our project and learning
- j. No, but somehow my job share partner and I need to both be involved and share the collaboration time

17. If the answer to previous question is yes, please provide some background information as to why:
Comments (4)

a. May have had a different opinion if other teacher refused to participate
b. (Either Way - see above) Find it difficult to discuss ideas when it is “one more thing” they need to do. I am interested in a continual process of my own learning not “doing a project”.
c. I would like to do projects with the same grade level classes as well as buddy classes
d. Working with like-minded people who offer different knowledge and expertise is critical to success

Section C: Resources - Time, Tools and Expertise
Resources are the time, tools and expertise we sometimes need to help us accomplish the learning we want to do.

Please check any the following resources that you feel you may need to help you move forward with our inquiry projects.

18. □ Time to work with a collaborative partner or team -14

19. □ Access to expertise in:
   o Social responsibility -3
   o Problem-solving -2
   o Critical Thinking -9
   o Technology Use -11
   o Assessment for Learning -11
   o Self-regulation -6

20. □ Access to tools
   o The Critical Thinking Consortium (TC2) website - 7
   o Social Responsibility Curriculum - 6
   o Problem-solving Curriculum -4
   o In-focus Projector - 7
   o Document Camera -6
   o Macbook Lab -7
   o iPad - 7
   o Smartboard - 6
   o PC Lab - 1
   o Digital Cameras - 6
o Professional Blogs -4
o Professional articles -2
o Professional books 3
o Other __________________________

14. Please Circle One: Teacher (14)  EA  Administration

Comments (1)

a. I thrive on having conversations and seeing demonstration of ideas of processes – a very hands on visual learner – I would like to observe some lessons modeled/introduced by Tara or another presenter with my current students. Would like to see Wendy in room more now that job action is over, and Wendy a part of projects with room to encourage.
Appendix D: Professional Development Reflection

Thank you for taking the time to reflect on your professional learning today. This activity should take approximately 10 minutes. Responses to this reflection may be used to help me, Tara Fisher, reflect on professional learning as part of my Master’s thesis in Educational Leadership at Vancouver Island University. Participation is voluntary. All responses will remain anonymous and confidential.

Date: ___________________________

Pro D Day Topic: ________________________________________________________________

1. **What are you learning?** What professional learning did you focus on today?

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

2. **How is it going?** Successes? Ah–ha moments? Questions?

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

3. **Where to next?** When and where can you use this learning?

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________
4. Additional Reflections:

_________________________________________________________________________________________

_________________________________________________________________________________________

_________________________________________________________________________________________

_________________________________________________________________________________________

_________________________________________________________________________________________

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_________________________________________________________________________________________
Appendix E: Open-ended, Semi-structured Interview Questions

Thank you for consenting to this interview with regards to our Inquiry 2012 – 2013. This interview is being conducted for the purpose of creating a better understanding of professional learning through collaborative inquiry. This interview will be recorded using a digital recording device and paper/pencil interview notes. All notes and recordings will be transcribed digitally. This interview should take approximately 45 minutes of your time. All records of participation will be kept strictly confidential, such that only my supervisor and I will have access to the information. Your participation is completely voluntary. You may withdraw from this interview at any time for any reason without explanation and without penalty. Furthermore, you may choose not to answer any question for any reason. Thank you in advance for your time and consideration.

1. Resources (Time, Tools, and Expertise)
   a. In terms of resources, what do you feel worked well for you in this process?
   b. With regards to expertise and the sharing of knowledge, can you elaborate on opportunities that were particularly beneficial to your professional learning?
   c. In the future, what resources would be helpful to you, during this process?

2. Collaboration Time
   a. What aspects of your collaboration time do you feel worked well?
   b. How do you feel you personally benefited from the collaboration time?
   c. Would you change any aspects of your collaboration time?

3. Professional Knowledge and Skills
   a. What aspects of your professional learning (with respect to the inquiry) did you focus on?
   b. What was the most exciting for you?
   c. Do you feel your learning had an impact on your teaching? Your students?
   d. Can you provide any examples of how you integrated your learning into your teaching practice?
   e. Throughout this process, we worked in groups and partnerships. Were there any relationships you felt were particularly important? Had a significant impact on your learning? Do you have any insight as to why that may be?
   f. What areas of professional learning would you personally like to continue with?

4. Inquiry Process
a. Do you have any final comments on our school-based inquiry process?
b. If this process were to continue, do you have any thoughts on where you feel we (as a school) should continue to focus our learning?
c. Would you consider trying the inquiry process in your classroom? With yourself? With your learners?