

Exploring the Development of  
**Teacher Efficacy**  
Through **Professional Learning**  
**Experiences**

**Final Report**

January 2014

**Research Team**

Larry Beauchamp, PhD

Robert Klassen, PhD

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*Dedicated to the memory of our dear friend and colleague*

*Larry Beauchamp*

(1943–2013)

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This longitudinal research project was carried out from September 2011 to October 2013 under contract from the Alberta Teachers' Association, funded by Alberta Education, with guidance from a provincial education stakeholder steering committee with representation from Alberta Education, Alberta Assessment Consortium, Alberta School Boards Association, Alberta School Councils' Association, Alberta Regional Professional Development Consortia Association of Alberta Deans of Education, and College of Alberta School Superintendents.

Our goal was to conduct research in districts and schools where professional learning had reportedly made a difference in professional practice, teachers' beliefs about teaching and student learning/engagement.

This research report was prepared for the Alberta Teachers' Association by the research team in collaboration with the Research Advisory Committee and the Steering Committee.

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The Alberta Teachers' Association

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# Foreword

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## The History and Context of Professional Development in Alberta

The education landscape of Alberta as it relates to professional development has undergone significant change in the past two decades. It is important to acknowledge that in Alberta during this time a culture of innovation and practice that enhances teaching practice and school leadership was developed.

**In terms of structure**, similar to most North American jurisdictions, Alberta's teachers attend professional development events such as conventions, conferences, in-service workshops and teacher institutes offered by both provincial professional development organizations and local authorities. Numerous Alberta teachers are also actively involved in professional learning communities. Many teachers also enroll in graduate education, clearly a key opportunity for teacher professional learning. Most Alberta teachers attend professional development days (PD days) yearly or semiyearly. In most districts, PD days have been set aside in school calendars, and teachers attend these days as part of their contractual obligations. In some districts, teacher-led or joint district-teacher-led professional development committees organize the experiences, while in others such events are organized by district leaders around broad themes. Although various local, district and provincial professional development committees and bodies meet regularly, historically it has been a struggle to achieve a shared vision for teacher professional learning in the province and to comprehensively coordinate programs. As a result, great variation exists in regard to the type of professional learning methods and strategies used at these events.

In 1995/96 regional professional development consortia were formed to broker, develop and deliver professional development programs for all education stakeholders, including teachers and school administrators. In addition, in 1998 policy relative to teacher professional development, the Teaching Quality Standard and the Teacher Growth, Supervision and Evaluation Policy were implemented, requiring all teachers to develop an annual professional growth plan. This policy increased teachers' attention to their individual professional growth and development and set the foundation in principle for teacher professional autonomy—a key component for school development and system improvement. Several important strategic initiatives supported this ground-breaking policy. Finally, a provincewide initiative called the Alberta Initiative for School Improvement (AISI), as described below, was active for over fourteen years and is very much part of the context from which teachers might be responding to surveys and interviews in this research. From AISI Clearing House on the Alberta Teachers' Association (2014) website, we share the following:

Established in 1999, the Alberta Initiative for School Improvement (AISI) is a program designed to improve student learning and performance by fostering initiatives that reflect the unique needs and circumstances of individual school authorities. From the onset, AISI has been a collaborative effort involving the following education partners: Alberta School Councils' Association (ASCA), Alberta Education, Alberta School Boards Association (ASBA), Association of School Business Officials of Alberta (ASBOA), Alberta Teachers' Association (ATA), the College of Alberta School Superintendents (CASS), University Faculties of Education (University of Alberta,

University of Calgary, University of Lethbridge and Campus Saint-Jean). To date [2012], there have been four cycles of AISI funding. More than \$500 million has been invested in this initiative to continuously improve student learning in Alberta.

Key projects included collaborative development of leadership, instructional practice, school climate, assessment and accountability, building capacity through professional development, student and parent engagement and the integration of effective practices.

Also, from 1999–2004, the Alberta Teachers' Association initiated consecutive model projects in eight elementary, junior and senior high schools to support the development of professional learning communities. More than 500 workshops were provided to schools during this period to support the development of school-based professional learning communities. The Association, through its network of specialist councils and research initiatives, continues to play a key role in supporting the professional growth of teachers and school leaders. Likewise, other provincial educational stakeholders and partner organizations, including professional development providers, central office and the ministry of education, contributed to and continue to support teacher and school leader growth.

In addition, the final report (2003) of Alberta's Commission on Learning (ACOL) influenced the professional development landscape. It recommended that school districts develop annual comprehensive professional development programs. The Association responded by collaboratively participating with education partner organizations to develop *A Guide to Comprehensive Professional Development Planning* (2006) and later *A Guide to Support Implementation: Essential Conditions* (2010). Some school districts have adopted the professional planning process outlined in these guides. There has been increased collaboration amongst education partners to work together in partnership to support teachers, school leaders, district leaders and all those who influence student learning.

It is also important to note throughout this time access to technology has significantly changed the teaching and learning process. The completion of SuperNet made it possible for teachers to access professional development resources and programs as well as develop and participate in online learning communities using the Internet.

Currently, Alberta finds itself in the midst of significant curriculum reform. In 2010, Albertans put forward a vision of the "Educated Albertan of 2030." This vision is articulated in the document *Inspiring Education*, which was generated through extensive consultations with Albertans from every corner of the province. In May 2013, a new Ministerial Order on Student Learning was implemented, advancing a new set of student learning outcomes, each of which is aligned with the vision and goals of *Inspiring Education*.

The complexity and depth of change articulated in *Inspiring Education* and the Ministerial Order on Student Learning will require all partners (including parents, teachers, principals, school superintendents, trustees, business leaders, postsecondary leaders, public servants and their respective representative organizations) to consider their practice and the way in which future learners will be supported to realize their full potential.

The work of Hargreaves and Shirley (2009, 2012) helps to further understand the context. When examining Alberta as one of six high-performance international systems, they found the following within Alberta's educational system:

1. *An inspiring dream* that moves a system forward and pushes educators to the forefront of shaping that system's future. They noted Alberta's widely shared commitment to innovation, stimulated by Alberta's ministry of education and teachers, which led to fourteen years of continuous government funding for innovation and increased teacher satisfaction levels.
2. *Local authority* that in Alberta meant teacher-designed innovations were clustered at the district level in shared mutual-learning networks with other schools and divisions, against the

typical Canadian practice of merging districts into large administrative units that become puppets of centralized ministry policy.

3. *Innovation with improvement*, through initiatives such as AISI, which increased connectivity between schools and teachers through forming networks (professional learning communities) that were focused on student learning and school improvement. The transfer of knowledge and innovations in teaching practice escalated, leading to improvements on local and district levels.
4. *Professional capital*, where teachers in 95 per cent of Alberta's schools involved themselves in continuous and routine research as a part of their professional practice.
5. *Collective responsibility*, where schools became high performance because teachers experienced and exercised shared responsibility for all students and for the improvement of their teaching.

The above historical changes within Alberta have contributed to a move away from the language and practice of providing and attending “professional development” to a culture of “professional learning within learning communities,” involving teachers and school leaders as well as education stakeholders, with a focus on improving professional practice and enhancing student learning.

## Limitations

Since our research study employed both qualitative and quantitative designs (mixed methods), we faced a number of limitations inherent to both designs. We chose both qualitative research (focus groups) and quantitative research (questionnaires) to broaden our base of data collection and better increase the insights we might gain from participants. Specifically, our quantitative approach focused on numerically or statistically significant differences while our qualitative process involved seeking thick and rich detail in relation to particular questions, phenomena or groups of people.

Qualitative research presents challenges in terms of generalizable results, validity, wider

implications and reliability. One limitation with qualitative research is that it often depends upon the individual judgments of researchers and is heavily dependent upon researcher interpretations. Although our study sought to interpret data “blindly,” (ie, we asked three researchers to independently review focus group data and interpret themes), there is no doubt that our analyses and interpretations were influenced by our previous research with AISI (Parsons, McRae and Taylor 2006) and our study of instructional leadership (Parsons and Beauchamp 2011). It would be almost impossible not to be influenced by findings from these studies as we read participants' responses. Although our research attempted to reflect the complexities brought forth by the particular sites and participants, previous researcher knowledge certainly played into our interpretations, and our subjective research opinions no doubt influenced our process of drawing conclusions. As systemically as we tried, our study reflects researcher inferences of what our data *might have meant*. Obviously, such previous research knowledge presents validity issues.

A second limitation with qualitative research is the ability to generalize results to other populations. Alberta teachers have been immersed to some degree in a funded educational improvement initiative for over fourteen years—AISI. After over a decade of experiencing various types of professional development and professional collaborations under the framework of AISI, the term *AISI* became ubiquitous in the language of the teachers in our study—particularly throughout the second year. While AISI may mean many different things to many different people, it was synonymous with professional learning for most teachers.

Our research study was tailored to the needs of Alberta's teachers within their context of two academic years (2011/2012 and 2012/2013). Specifically, aside from what might typically be contextual issues in any qualitative or quantitative study, Alberta's context included provincial budget implications that shrank school district budgets—including the impending dissolution of AISI. Many

teachers in our sample had experienced AISI and had been impacted by problems brought from AISI's dissolution. Thus, it is difficult to extrapolate our research findings to broader populations or to draw generalized conclusions from the qualitative aspect of our research study—even throughout Canada. Although our research findings' validity increases for school divisions throughout Alberta, it is impossible to clearly extrapolate these findings to broader contexts or to draw wider conclusions for teachers elsewhere. Thus, our study might only be valid to our own provincial context. Since qualitative research is specific to one setting (or, in our case, a small set of ten settings in five school districts) and is not generalizable to all teacher populations, it is also difficult to make broad recommendations. Similar to all qualitative research, our research provided in-depth answers about a small, specific group of participants without assurance that these findings transfer to other groups of teachers.

Qualitative research also presents issues of reliability, which is defined as the ability to reproduce studies that would show consistent results. As noted earlier, qualitative research depends upon researcher knowledge, insight and interpretation. Thus, it is unlikely that any other group of researchers could replicate the qualitative aspects of our study and achieve the same results—even with the same population. Other researchers might make different interpretations or decisions; they might ask interview questions in different ways; or, they might even augment a research design during the study, based on different perceptions of participants' needs. Time and insights change, especially given any number of differences in participants' and/or researchers' lives and/or context. For example, we have learned that things have changed based upon budgetary impacts within one school division that participated in our research. Such variations radically impact a study's results or can make study results inconsistent even when two studies consistently attempt to engage a similar design.

A crucial limitation of qualitative research is that findings cannot be generalized to larger

populations, and our participants were not selected randomly. Those who participated were recruited from five school districts and schools from within those districts. Our recruitment strategies introduced a selection bias that we, as researchers, had no control over. This selection bias created a specific sample of a larger population. As well, the number of participants in the qualitative aspect of this research study was too small to represent the population. Our focus groups contained between eight and fifty members (fewer than 300 teachers in total) of a teacher population that numbers in the thousands, ergo the qualitative aspect of our research study (similar to other studies) cannot meet statistical assumptions that might project our results accurately or reliably to an entire population of teachers. These limitations are no surprise. Qualitative research does not set out to collect statistical data from a representative sample of the target audience. Therefore, qualitative research can never be statistically analyzed to estimate to what extent the ideas expressed by our participants reflected opinions of the population we studied. As a result, we have refrained from drawing conclusions we believe represent the specific concerns, attitudes or beliefs of teachers everywhere.

A fourth limitation is that participants of focus groups often express views consistent with social or cultural norms of their schools in ways that do not present them negatively to their peers. Social and cultural desirability presents a potential bias that might encourage participants to self-censor their actual views, especially in group settings. As researchers, we must assume that the data given to us by participants, and the recommendations we make from these data, broadly represent other contexts, but we cannot be certain. Likewise, the quality of the data we collected was highly dependent upon the skills of our facilitators when moderating the focus groups and the skills of our researchers in ensuring rigorous analyses. The quality of our data depended upon both the methods we used to collect that data and the interpersonal exchanges we had with participants. For example, one researcher was well-known by teachers, principals and

superintendents and probably had an impact on data collection. The qualitative data was likely influenced by other variables, such as the dress, demeanor and communication pattern of the researchers involved in data collection. Finally, as noted earlier, the skill and experience of the researchers and their previous experiences doing research also influenced how data was summarized, how well data fit the themes created and the resultant insights and inferences.

Quantitative research also comes with a number of limitations. For example, the power of our statistical analyses was dependent upon the specific size of the sample that completed the questionnaires. In any quantitative research, large sample sizes are required. The logistical difficulties of gaining large sample sizes and a sufficiently large number of participants makes any research suspect. Did we gather a large enough sample size? Were we able to ask enough questions? Did we ask the right questions? Unfortunately, our sample size (for *Phase II*) was too small to calculate self- and collective-efficacy trends or trajectories over the two-year period. Although 758 teachers completed at least one questionnaire during *Phase II*, only 13 completed all four. Some teachers who participated in *Phase II* may have also engaged in *Phase I* focus groups, which likely influenced some of the responses we received. As researchers, we understood that communication between members within focus groups likely impacted questionnaire answers; however, that was a limitation we embraced given our choice of a mixed-methods research design. Our mixed approach also required an adaptation of questionnaire items in Year Two in order to adequately address the teachers within our educational context of Alberta and, as a result, may have altered the reliability and validity of some scales used in Year One. Therefore, we cannot generalize our results to past or future contexts or settings.

Limitations were also inherent in the formatting of our online questionnaires, and may have influenced the quantity and quality of the data. For example, some participants felt our first

questionnaire was too long, with too many drop-down menus (ie, using five models of professional learning for each efficacy item). It was also difficult to choose just one professional learning activity to associate with each efficacy item, because the five models were not mutually exclusive. The way in which we used the five models to define professional learning may have been constraining to some participants. For example, one teacher noted, “relationships are the key to student motivation [and I found] it disappointing that student relationships wasn’t listed as a professional learning activity.” The six-month framing of our questionnaire items was also questioned because “an improvement that results from a professional learning experience may take years.” Contextually, many changes occurred provincially within the six-month intervals of quantitative data collection. However, culturally, not much change occurs in teachers’ lives in six months. Some participants simply expressed that they were “tired of responding to all the different surveys we are asked to complete by Alberta researchers.”

Although we added additional questionnaire items in Year Two that were specific to the affective source of efficacy, we did not capture the complexity of teachers’ emotional lives and their work-life balance<sup>1</sup>. For example, when asked to select one emotion from a drop-down menu, one participant replied, “one emotion can’t describe my feelings towards professional learning.” We recommend future research explore the relationship between teachers’ emotion regulation and professional learning.

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<sup>1</sup> To learn more about the work-life balance of Alberta teachers, see Duxbury and Higgins (2013).

# Executive Summary

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## Abstract

Our research sought to better understand the relationship between teacher professional learning and teacher efficacy. The research was carried out from 2011 to 2013 in districts and schools where professional learning had reportedly made a difference in professional practice, teachers' beliefs about teaching and student learning. Our research employed a mixed-methods design: over two years, four surveys collected data from 800 teachers in five school districts, and 400 teachers were interviewed from two schools (one elementary and one secondary) in each district. This research asked what professional learning works well, how it influences teacher efficacy and professional practice and what effective professional learning supports look like. Among our findings: teachers reported (80 per cent) their best professional learning as "collaboration with colleagues." Secondary teachers reported higher self-efficacy than collective efficacy; elementary teachers reported both high self-efficacy and high collective efficacy. Teachers reported a need (89.3 per cent) to focus professional learning on becoming better teachers (develop classroom resources, support for their subjects, classroom management, technology skills and instructional strategies to better meet the needs of diverse students) and less focus on students' needs/student learning (21.4 per cent). Our findings contribute to greater insight into how to engage teacher education at the school, district and organizational level.

## Purpose

Our research reports findings from Alberta-wide, longitudinal research carried out from 2011 to 2013 in districts and schools where professional

learning had reportedly made a difference in professional practice, teachers' beliefs about teaching and student learning/engagement. The research examined relationships between teachers' professional learning and self- and collective-efficacy beliefs. Self-efficacy refers to individual confidence to teach all students, whereas collective efficacy refers to a school-level belief about capabilities to reach students. Working with teachers to discover why and under what conditions professional learning worked best, our research asked what professional learning works well, how it influenced teacher efficacy and professional practice, and what effective professional learning supports look like.

## Theoretical framework

We used Bandura's (1997) social cognitive theory that suggests that what we do (eg, how we teach) influences and is influenced by personal factors (such as self-efficacy) and environmental factors (such as school context). Specifically, we proposed that teachers' professional learning enhances efficacy beliefs through four sources: mastery experience, verbal persuasion, vicarious experience and affective states (Bandura 1997). We believe these personal and environmental influences encourage professional growth. Defining what constitutes professional learning is challenging. We initially used Joyce and Calhoun's (2010) framework: (1) models that support individuals, (2) collaborative personal/professional direct service models (mentoring and coaching), (3) collaborative and cooperative models, (4) models designed to achieve curricular and instructional change and (5) traditional workshop models to better understand teacher professional learning. As the research progressed, we adapted our definition based on feedback

from teachers. We consider *teacher professional learning* to include formal and informal opportunities teachers have to increase their own learning and linked teacher professional learning to student learning.

## Methodology/ Research Design

Our research used a mixed-methods longitudinal approach, employing four different large-scale surveys during Years One and Two (in five districts) and two individual and focus-group interviews (at 10 schools). Because little research has examined how professional learning contributes to teachers' beliefs, we wondered what kind of professional learning *teachers* felt best met personal, student and school needs? Specifically, we asked the following questions:

1. How is teacher efficacy enhanced through professional learning as (initially) outlined by Joyce and Calhoun (2010)?
2. What were teachers' perceived learning goals in their professional learning experiences?
3. How do teachers explain their efficacy in relation to professional learning?
4. How are the sources of efficacy (mastery experiences, verbal persuasion, vicarious experience and affective states [Bandura 1997]) fostered through professional learning experiences?

## Data source(s)

Four surveys—at midpoint and end point over two years—were used to collect data from five Alberta school districts. In addition, we interviewed teachers from two schools (one elementary and one secondary) in five districts at two time periods. In total, we surveyed more than 800 teachers and interviewed more than 400 teachers. Four schools were rural, four were located in medium-large cities and two were located in smaller cities. The smallest school had a teaching staff of fewer than 10 teachers; the largest school had a staff of more than 50 teachers. Eight schools were public schools; two schools were Catholic separate schools.

## Results

- Teachers (80 per cent) reported that their most valuable professional learning was collaboration with colleagues.
- Year One: Teacher-initiated professional learning was the strongest influence on self-efficacy; professional learning communities (ie, collaboration) were the strongest influence on collective efficacy (ie, beliefs about school-level efficacy).
- Year Two: Collaboration was the strongest influence on self- and collective efficacy.
- Secondary teachers reported higher self-efficacy than collective efficacy; elementary teachers reported high self-efficacy and high collective efficacy.
- Teachers preferred to focus their professional learning on teachers' needs/teacher learning (89.3 per cent) as opposed to students' needs/student learning (21.4 per cent).
- The top three foci for professional learning were
  - share curriculum ideas and best practices,
  - co-create and share learning and teaching resources, and
  - learn new teaching strategies.

## Educational importance of the study: significance of the work

Building a more nuanced understanding of how teacher professional learning influences self- and collective efficacy can improve schooling in Alberta. Our findings can help schools and districts better consider ways to develop professional learning initiatives to build teachers' self- and collective efficacy. Results from this research provide insight into the impact of professional learning on efficacy beliefs and teacher practice at the individual, school and organizational levels of teacher education partners.

## Recommendations

- Provide autonomy and choice to teachers in professional learning activities to increase teaching self-efficacy.
- Explicitly provide time and space for collaborative professional learning activities to build collective (school-level) efficacy.
- Tailor professional learning to different cohorts (eg, teaching stage). For example, beginning teachers and experienced teachers have different professional learning needs; single-subject–area teachers (eg, second language) desire collaboration with other single-subject–area teachers.
- Invite teachers to collaboratively outline the professional learning they need to become better teachers and work to specifically connect these to instructional strategies that better meet students’ needs/student learning.
- Build opportunities for professional development/professional learning around sharing curriculum ideas and best practices, co-creating and sharing learning and teaching resources and learning new teaching strategies.

## Bibliography

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- Joyce, B, and E Calhoun. (2010). *Models of Professional Development: A Celebration of Educators*. Thousand Oaks, Calif: Corwin.

# Chapter One

## Introduction

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### 1.1 Study Overview

Professional learning has the potential to influence teachers' beliefs and practices, which in turn influences student engagement and learning. The overarching goal of our research was to understand how professional learning influences teachers' beliefs in their capabilities to effect change, in short, their *individual- and collective-efficacy* beliefs. The specific purpose of this study was to examine the relationship between teachers' professional learning and individual- and collective-efficacy beliefs<sup>2</sup> over a two-year period in Alberta schools within five school districts.

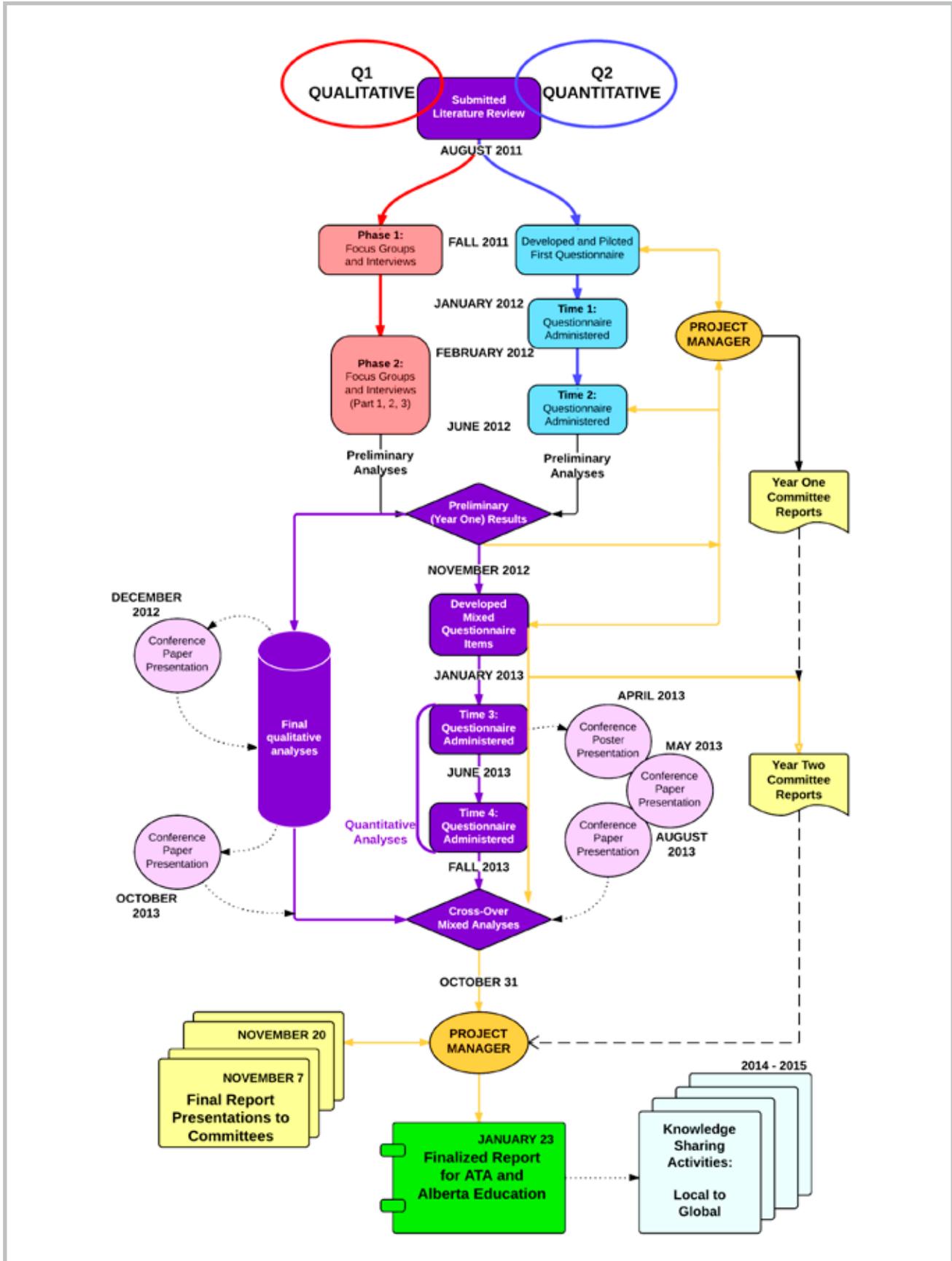
When interacting with teachers (via focus groups and online questionnaires) we used the term *professional learning* to encapsulate the wide variety of formal and informal opportunities for enhancing teaching practice while reciprocal forces engage teachers to remain centered on student learning. We did not provide a definition of professional learning, nor did we ask for teachers' understanding of the term. Instead we intentionally had conversations with teachers through focus groups—free of outside definitions—about what *they* felt were the most impactful professional learning experiences. Through questionnaires, we did however frame *professional learning* for teachers by intentionally presenting Joyce and Calhoun's (2010) five types of professional learning as a guideline.

Alberta teachers are more familiar with the use of the term *professional development*, typically defined as the wide range of programs, activities and services that teachers identify and undertake individually or collectively to further understand the nature of teaching and learning, to enhance professional practice and to contribute to the profession. *Professional development* includes in-servicing, a process of upgrading specific skills and knowledge to remain current in curricula, teaching tools, strategies, and other supports as well as staff development initiatives that are collective efforts to implement a specific initiative, often in response to school, jurisdiction or ministry goals. Optimally, space and time are created for professional learning that is highly personal and contextual and a result of one's experiences attained through the opportunities outlined above.

Our mixed methods study was conducted over a two-year period in geographically and demographically representative settings (five school districts) throughout Alberta. In this report, *Phase I (Time 1 and Time 2)* refers to qualitative data we collected (using focus groups and interviews) from 10 schools—one elementary school and one secondary school—from each of five school districts. *Phase II (Time 1, 2, 3 and 4)* refers to the quantitative data collection (four questionnaires administered to teachers in 72 schools). For a visual representation of our project activities, please see Figure 1.

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<sup>2</sup> We use the term *efficacy beliefs* to refer to self-efficacy (or individual efficacy) and collective efficacy. For definitions, please refer to the Glossary, p 91.



**Figure 1 Project activities**

## 1.2 Literature Review

Extensive research (see Klassen, Tze, Betts and Gordon 2011 for a review) supports the claim that efficacy beliefs are an important influence on human achievement in a variety of settings, including education, health, sports and business (Bandura 1997). The current research was designed to explore teacher beliefs (self- and collective efficacy) and preferred learning practices as described by teachers and through the lens of five specific modalities of teacher professional learning (presented by Joyce and Calhoun 2010):

1. Models that support individuals
2. Collaborative personal/professional (direct service) models
3. Collaborative and cooperative models
4. Models for curricular and instructional change
5. Traditional workshop models

However, Diaz-Maggioli (2004) suggests that professional learning practices generally have the following eleven problems: (1) top-down decision making, (2) the idea that teachers need to be “fixed,” (3) lack of ownership of the professional learning process and its results, (4) the technocratic nature of professional content, (5) universal application of classroom practices regardless of subject, student age, or level of cognitive development, (6) lack of variety in the delivery modes of professional learning, (7) inaccessibility of professional learning opportunities, (8) little or no support in transferring professional learning ideas to the classroom, (9) standardized approaches to professional learning that disregard the varied needs and experiences of teachers, (10) lack of systematic evaluation of professional learning and (11) little or no acknowledgment of the learning characteristics of teachers among professional learning planners. Unfortunately, other researchers (Glickman, Gordon, and Ross-Gordon 2009) have found such examples, where

[most] teachers and principals were not given any choice or responsibility in these [professional development] discussions about the needs of their students and themselves. Instead, they

were treated as objects rather than as agents of professional development, without due regard for their capacity to make wise decisions in the interests of students and teaching. Without choice or responsibility to make knowledgeable decisions about their work, they have little motivation or commitment to somebody else’s program (p 277).

These problems tend to arise when there is a mismatch between what research suggests are the most effective ways to help teachers engage in positive professional learning, and what is actually available (Fullan 2006). Specifically, few professional learning events demonstrate constructivist principles, differentiated or self-directed learning. During our research we attempted to better understand how the structure and delivery of different professional learning activities can positively influence teacher efficacy and professional practice and provide evidence that professional learning contributes to enhanced teacher practice and student learning.

One way of advancing understanding was framing our research with “*A Guide to Support Implementation: Essential Conditions*” (Alberta’s Education Partners 2010). Alberta’s Education Partners created the guide to essential conditions in response to the ministry of education’s question, “How do we know if professional development support enhances and contributes to improved practice and implementation?” The intent of the stakeholder working group<sup>3</sup> was to further develop understanding about the essential conditions to support implementation, the complexity of change and the roles and responsibilities of all stakeholders in implementation. This guide served as a framework to help create our research questions since we were interested in exploring whether the seven essential conditions required for successful

<sup>3</sup> The working group was comprised of representatives from education stakeholders and approved members-at-large, co-chaired by representatives from the Alberta Regional Professional Development Consortia and the Alberta Teachers’ Association. View the 2012 revised edition online at: <http://www.essentialconditions.ca/>.

implementation (*shared vision, leadership, research and evidence, resources, teacher professional growth, time and community engagement*) did in fact promote teacher efficacy.

We also designed research questions so as to better understand specific implementation conditions that already exist and/or might need to be undertaken to increase teacher professional learning and efficacy. Thus, data from the study were analyzed to suggest how teachers' professional learning (commonly considered professional development in the literature) might be shaped so as to better accommodate the practical needs of teachers as they attempt to promote student learning.

Our research also contributes to the growing body of empirical research on the relationship between teachers' self- and collective efficacy beliefs and their professional learning. Teachers' self-efficacy refers to teachers' beliefs about their capabilities to influence students' classroom success through teaching and instructional behaviours (Bandura 1997). Whereas successful teachers are likely to possess a strong sense of their own self-efficacy, successful schools are characterized by teachers' *collective* efficacy beliefs; that is, their beliefs about their school staff's capability to help students develop and learn. It is believed that the self- and collective efficacy beliefs of teachers are nourished by the same four sources—past experience, vicarious experience, verbal persuasion, and group-level affective state (eg, Goddard and Goddard 2001). When appraising self-efficacy, teachers also consider the group processes (involving eg, staff, school, district) that are influencing their professional learning (Bandura 1997). Next, we present some recent studies linking teacher efficacy (both self- and collective) with professional learning.

Several recent studies have examined links between teacher self-efficacy and formal and informal professional learning. Palmer (2011) examined the sources of teacher efficacy and the effectiveness of a teaching intervention in science education. The results from surveys and interviews indicated an increase in self-efficacy linked with professional learning, with changes being maintained over a

two-year period. Cognitive mastery (ie, perceived success in understanding a scientific concept) was the most powerful source of efficacy information, whereas enactive mastery (ie, past hands-on experience) had less of an impact (Palmer, 2011). Vicarious experience (ie, viewing others' teaching) also contributed to cognitive mastery. Feedback from a perceived expert who observed teaching during the professional learning intervention was also effective in enhancing participants' self-efficacy in science.

In a Canadian context, Ross and Bruce (2007) studied the effect of professional learning on the four sources of efficacy on a specific subject area by randomly assigning Grade 6 mathematics teachers to either treatment (professional learning from September to December) or control (professional learning from January to April) groups. The treatment group's overall teacher efficacy (related to student engagement, instructional strategies and classroom management) was stable during the study and higher than the control group. Specifically, classroom management efficacy increased significantly for teachers in the treatment group. Therefore, the professional learning effectively used all four sources of efficacy (ie, by providing information-rich tasks, modeling, requiring in-class practice and debriefing experiences) to enhance teaching efficacy (specific to classroom management) for teaching mathematics.

Gabriele and Joram (2007) investigated the implications of professional learning on teacher self-efficacy in math and used a qualitative approach involving classroom observations and a "talk-aloud" methodology to examine the content of reflections provided by 10 primary teachers (after teaching a lesson). After examining the data collected from novice and experienced teachers at different time points during a transition from traditional to reform-based mathematics teaching, the authors revealed expected results of experienced teachers recalling more successful events, with more statements about *student thinking* (ie, describing a student's problem-solving strategy), and more positive emotion

expressed than novice teachers. Specifically, positive emotion was associated with student thinking for experienced teachers and meeting lesson outcomes for novice teachers. According to Gabriele and Joram, teachers who rely on judging success using criteria connected to positive feeling states (*affective source of efficacy* according to Bandura 1997) will, over time, develop high self-efficacy for reform-based teaching. To explore this interpretation, researchers recommend a longitudinal examination of teachers as they progress through a professional learning program.

Tschannen-Moran and McMaster (2009) explored the relationship between four different professional learning formats and the changes in primary and resource teachers' self-efficacy while learning how to implement a new teaching strategy for reading. This study used an additive approach to form four intervention groups: (1) only information, (2) information and modeling, (3) information, modeling and practice and (4) training from all four efficacy-related sources: information, modeling, practice and coaching. The greatest gains in self-efficacy occurred for participants receiving only information (Group 1) or training from all four sources (Group 4). The expected relationship between a professional learning format and the implementation of a new strategy, however, was confirmed because the self-efficacy of participants who were trained from all four sources differed significantly from groups trained from fewer sources. The authors concluded that exposing teachers to a new strategy without follow-up feedback (ie, supportive coaching) might leave them "feeling more inadequate than they had before" (p 241). Future research examining professional learning formats which offer training from different sources can enhance our understanding of *how* and *why* teacher efficacy is affected.

Martin, McCaughty, Hodges-Kulinna, and Cothran (2008) examined the influences of professional learning on self-efficacy specific to physical education by comparing two professional learning programs (basic and extended) to a control group. Participants in both professional learning programs experienced increases in teaching efficacy specific

to physical education (ie, fitness development) and general educational practice (ie, instructional efficacy) with the exception of disciplinary (ie, classroom management) efficacy, which remained unchanged. The control group did not experience changes in specific or general efficacy, with the exception of a decrease in disciplinary efficacy.

Henson (2001) also examined the effect of year-long professional learning (September to May) on teacher self-efficacy. Professional learning in this study consisted of teacher research—involving both formal and informal group meetings regarding the development and implementation of classroom behavioural management interventions. By analyzing longitudinal quantitative (ie, surveys) and qualitative (ie, interviews) data from 11 educators involved in collaborative participatory teacher research (in an alternative school setting), this study revealed significant increases in general and personal teaching efficacy. As a result, participants expressed a preference for teacher research over *typical PD in-services*, concluding that it was "worth the effort" and this is "how professional development is supposed to work" (Henson 2001, 831). The authors concluded that future studies on teacher efficacy would benefit from gathering data across a range of school settings. Given the collaborative nature (ie, within-school group meetings) of teacher research, the inclusion of collective efficacy measures has the potential for providing a more complete understanding of the relationship between professional learning and teacher efficacy.

Mushayikwa and Lubben's (2009) study provided a different perspective on professional learning by examining the process of self-directed professional learning using information communication technologies in an area where formal resources were scarce. Interview data were collected from 55 science and math teachers to determine areas of concerns that form major themes to self-directed professional learning (Mushayikwa and Lubben 2009, 378). Several factors (ie, need for career development or improved content knowledge) were identified and categorized into two major themes (that define teacher efficacy): *classroom*

*efficacy* and *professional efficacy*. According to Mushayikwa and Lubben, PD that aligns teacher concerns with classroom efficacy and professional efficacy can encourage self-directed professional learning within formal professional learning programs in disadvantaged locations.

Although we know that teachers' motivation and beliefs likely change over time, we do not know much about the nature of these changes (Klassen, Durksen, and Tze, in press). Recent research found a teacher's level of commitment to the profession is more at risk as experience increases; however, we still need to know more about the quality of conditions and relationships that add to (or take away from) teachers' sense of commitment (Day and Gu 2010). Adopting a life-stage perspective to the development of teachers' careers emphasizes change in behaviour and beliefs across the life course, with an emphasis on the dynamic processes of gains and losses and on individual plasticity (ie, modifiability) over time (Baltes 1987). Huberman's work (1989) builds on a life-stage approach to human development, but with a focus on career development and especially on teachers' motivational and affective development over the career span.

Klassen and Chiu (2010, 2011) recently conducted cross-sectional research examining teachers' self-efficacy across career stages with a large sample of practicing Canadian teachers. Known as the most widely used measure of teachers' self-efficacy (Klassen et al 2011), researchers applied Tschannen-Moran and Woolfolk Hoy's (2001) conceptualization (and measure) of teachers' self-efficacy as consisting of self-efficacy to use effective instructional strategies (eg, "How much can you do to craft good questions for students?"), to manage student behaviour in the classroom (eg, "How much can you do to control disruptive behaviour in the classroom?") and to engage all students in learning (eg, "How much can you do to motivate students who show low interest in schoolwork?").

The participants in Klassen and Chiu's (2010) study were 1,430 practicing teachers (69 per cent female) from Alberta who worked in a range of school

settings (elementary through high school), with a mean age of 40 years and 13 years of teaching experience. Results showed that teachers' years of experience were linked to all three forms of self-efficacy—instructional strategies, classroom management and student engagement—in a nonlinear, inverted U, curvilinear fashion. In each case, teachers' self-efficacy increased from zero years of experience to a peak at about 23 years of experience, and then receded in late career. A follow-up study (Klassen and Chiu 2011) with another group of practicing teachers confirmed the result that teachers' self-efficacy increased until late-mid career and then declined in later career stages.

The finding of teachers' self-efficacy, peaking at about 23 years of experience and then declining in later career years, maps onto Huberman's (1989) conceptualization of career stages. For teachers, self-efficacy may peak during the period Huberman names as *serenity*, before decreasing as the teacher enters into the disengagement phase. Recent research has built on Huberman's work, with Day and Gu (2010) finding that a majority of teachers in mid-career (ie, 8–23 years of teaching) experience increases in motivation and commitment (ie, psychological attachment to their profession), whereas increased proportions of teachers in a later professional life phase (24+ years of experience) report declining levels of motivation (ie, feeling disenchanted, fatigued, trapped). Klassen and Chiu (2010) found a decrease in older teachers' self-efficacy beliefs and suggested that the decrease was due not only to biological and psychological changes related to chronological age, but to external influences related to student and peer perceptions of declining competence influenced by stereotyped beliefs about aging. In sum, age-related changes in teachers' self-efficacy may be influenced not only by chronological age, but also by the psycho-social context (eg, amount of autonomy and quality of social and emotional interactions) of the work environment.

But teachers do not work in isolation—their work environment is rich and involves interactive social contexts with a varied range of individuals (students, parents, colleagues, administrators,

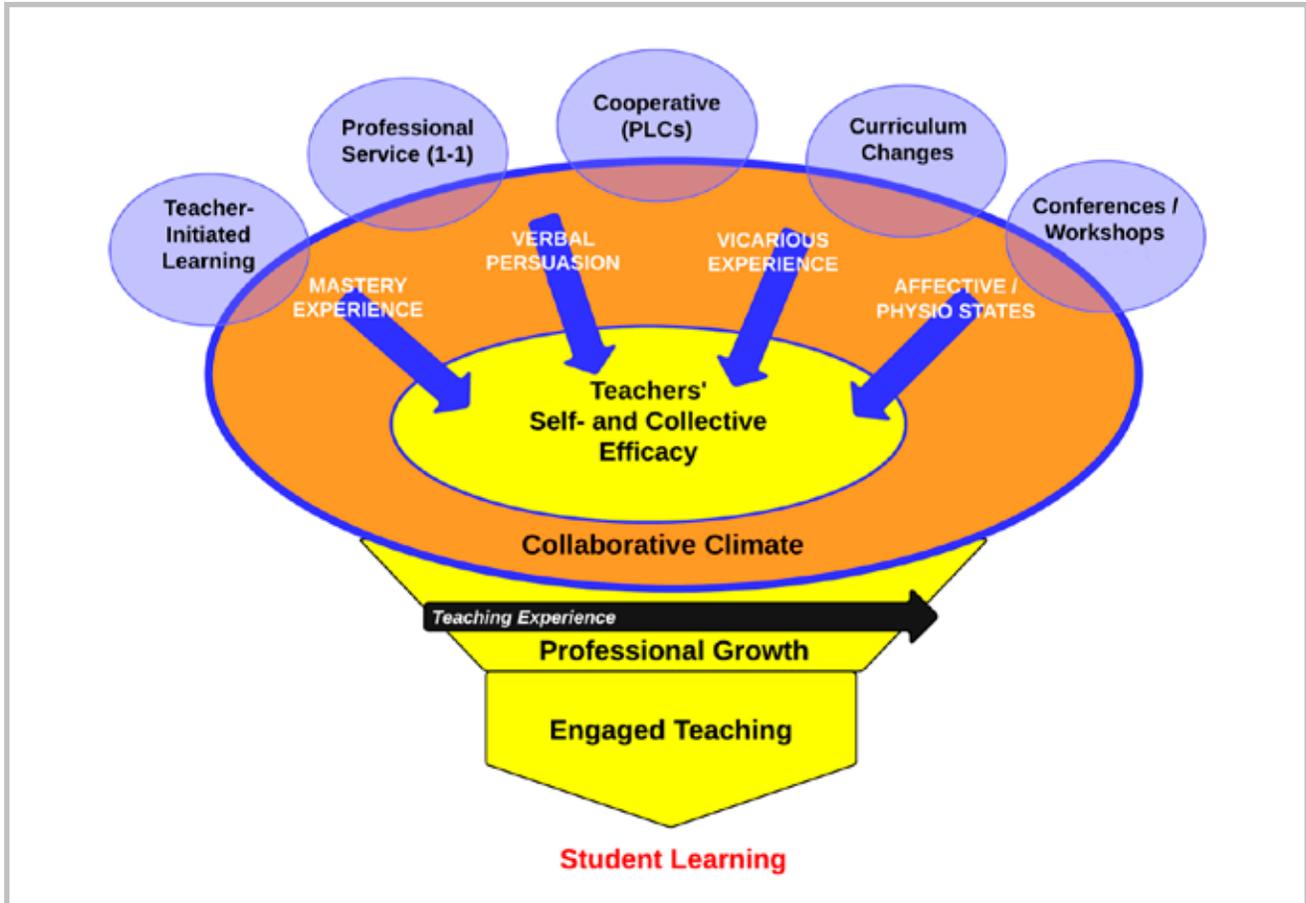
school psychologists, to name a few). Bandura (1997) noted that people form beliefs about the collective capabilities of the group(s) to which they belong. He defined perceived collective efficacy as “a group’s shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainments” (p 477). Although researchers have paid more attention to teachers’ self-efficacy, a number of recent studies have investigated teachers’ collective efficacy and its relationship to professional learning.

Research (eg, Klassen et al 2008) has shown that teachers’ collective efficacy is related to student achievement and academic climate, even after controlling for prior student achievement and demographic characteristics, such as socioeconomic status. Few studies have examined how teachers’ professional learning experiences are associated with school-level collective efficacy beliefs. According to the Klassen et al (2011) review, research on teacher collective efficacy has not kept pace with teacher self-efficacy research. In fact, almost nothing was found on *how* collective efficacy beliefs are formed in school settings. The Klassen et al review found only two studies examining teachers’ collective efficacy using a qualitative approach (case study used by Puchner and Taylor 2006; interviews analyzed by Rivard, Follo, and Walsh 2004) and no studies exploring teachers’ collective beliefs using a longitudinal design.

Since Bandura (1997) discovered varying levels of collective efficacy across activities, researchers (eg, Rivard et al 2004; Zambo and Zambo 2008) have examined the impact of professional learning on collective efficacy by focusing on individual subject areas (ie, mathematics). Using questionnaires and interviews, Zambo and Zambo examined the influence of a two-week summer mathematics professional learning program on the self- and collective efficacy of teachers from (1) a “low” district with most schools labeled as underperforming and (2) a “high” district with few schools labeled as underperforming. Both groups indicated higher levels of personal as opposed to collective competence; yet, working with colleagues

was beneficial for both groups. As expected, the “high” group experienced higher levels of group competence throughout, yet only the “low” group experienced an increase in group competence during the study. Given the participants’ lack of change in personal or contextual influence, researchers recommend professional learning programs focus not only on strategies but also on raising teachers’ individual and school-wide confidence in impacting student learning. A review of current research on teacher collective efficacy found a consistent focus on student outcomes, but recent work by Powell and Gibbs (2013) highlights the great importance for staff collective efficacy of *school ethos* and *leadership style*. To enhance the relationship between teachers’ collective efficacy and professional learning, Bandura (1997) urges a unification of interests (individual and school-wide) to explicitly stated attainable developmental goals and shared purposes.

Researchers have also identified self- and collective efficacy beliefs as being nourished by the same four sources—past experience, vicarious experience, verbal persuasion and self- or group-level affective state (eg, Bandura 1997; Goddard and Goddard 2001). Recent findings from Brown and Gibbs’ (2013) study of teachers’ levels of responsibility and shared leadership roles revealed four sources of enhanced collective efficacy: *communication* (verbal), *learning* (mastery), *supporting roles* (vicarious), and *stress management* (affective). For example, verbal persuasion (ie, feedback) can help show the relationship between professional learning and school climate (OECD 2013). When appraising self-efficacy, teachers also consider the group processes (ie, involving affective state of staff, school and/or district) that are influencing their professional learning and development (Bandura 1997). According to Hargreaves (2009), “teachers can only really learn once they get outside their own classrooms and connect with other teachers” (p 98). Connecting with other teachers can nourish sources such as vicarious experience (eg, observing another teacher) and affective states (eg, enthusiasm). Researchers (eg, Salanova, Llorens and Schaufeli 2011) have found that self- and collective efficacy beliefs alter the way a teacher regulates and



**Figure 2 Conceptual model of teacher professional learning**

interprets experiences of emotion, suggesting that affect—a reciprocal source of efficacy—influences teachers' work engagement.

### 1.3 Theoretical Framework

Our framework is based on Bandura's (1997) social cognitive theory that explains learning according to three sets of reciprocal influences: personal, behavioural and environmental. Specifically, we propose that teachers' professional learning enhances efficacy beliefs through four sources (mastery experience, verbal persuasion, vicarious experience and affective states; Bandura 1997) and is influenced by teaching experience. We believe these personal (eg, self-efficacy) and environmental influences (eg, collaborative climate) encourage the behaviours that lead to professional growth and enhanced teaching practice. But these behaviours

also reciprocally impact personal factors. For example, when a teacher notices that a change in teaching behaviour (eg, after a professional learning experience) is increasing student learning, we believe teacher confidence (self-efficacy) increases. Please see Figure 2 for a graphical illustration of our framework.

## Chapter Two

# Who Participated in the Study?

Given the complexity of mixed-methods research, the sampling scheme (ie, how participants were recruited), sample size, sampling strategy, time frame, relationship between participants and how we used our samples to address our research questions were guided by explicit criteria (Collins 2010). Participant<sup>4</sup> criteria helped create boundaries for our project and included

1. employed teachers at a school within one of the five participating school districts,
2. teachers with Internet service for accessing questionnaires online via Survey Monkey, and
3. an assumption that participants were honest when confidentially responding to questionnaire items and while providing responses within focus groups.

### 2.1 Phase I Participants

Five Alberta school districts and two schools from each district agreed to take part in both sets of focus groups (Time 1 and Time 2). These school districts will not be named as part of the study's agreement. However, generally speaking, of these five districts, three were near Alberta's geographical centre, one district was located in southern Alberta, and one district was located in northern Alberta. Four rural districts covered large geographical areas, and one

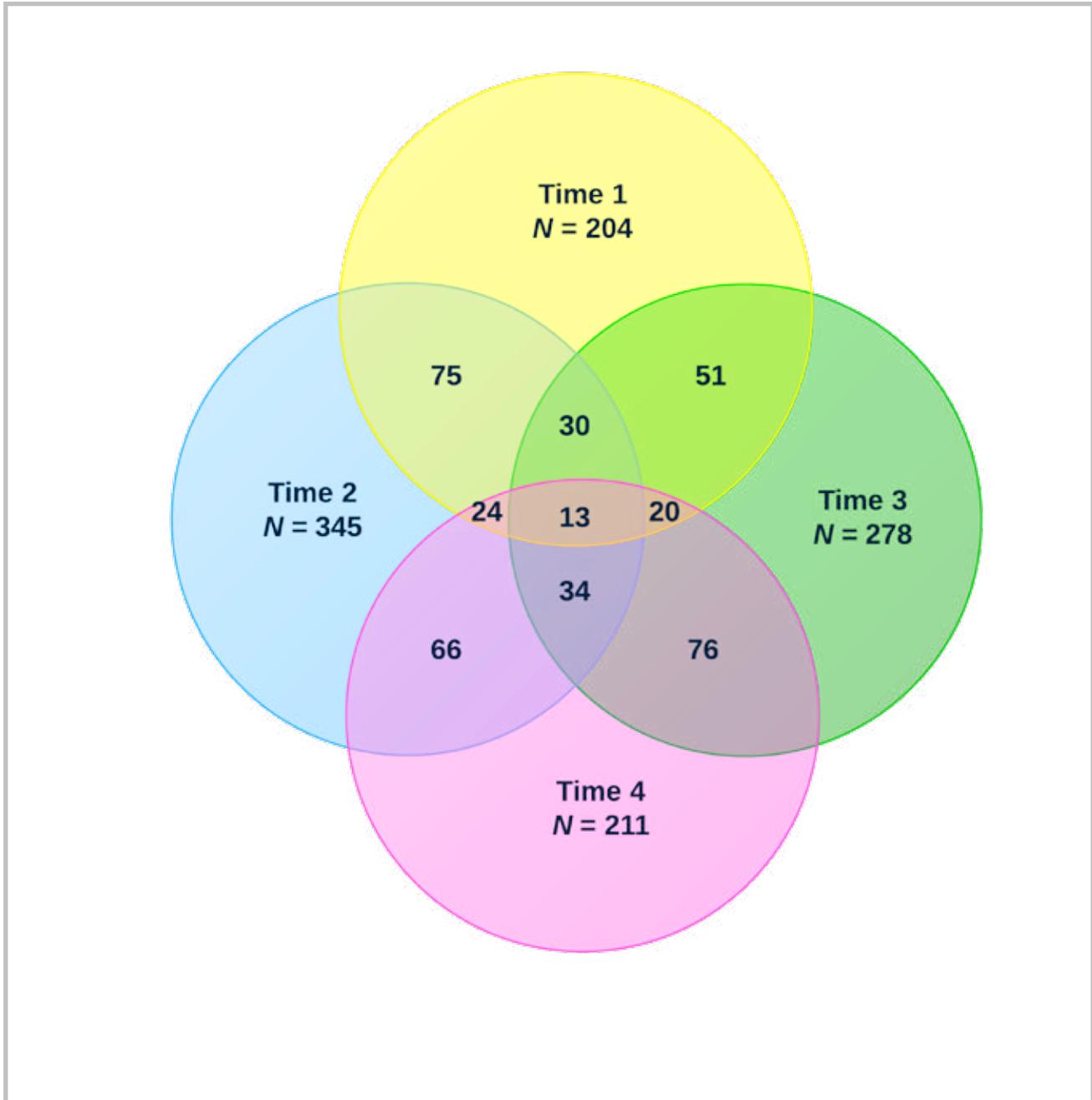
more urban district had boundaries equivalent to a medium-large Alberta city. In total, of the 10 schools that volunteered to be part of the study, five schools were elementary and five were secondary. Four schools were located in small towns or rural areas. Four schools were located in medium-large cities and two schools were located in smaller Alberta cities. The smallest school had a staff of fewer than 10 teachers, and the largest school had a staff of more than 50 teachers. Eight schools were public schools; two schools were Catholic separate schools. At Time 1, 200 teachers participated in focus groups and interviews, with 216 participating teachers at Time 2.

### 2.2 Phase II Participants

Seven hundred fifty-eight teachers responded to at least one of four questionnaires: 204 (Time 1), 345 (Time 2), 278 (Time 3) and 211 (Time 4). Figure 3 includes the number of teachers who completed two, three or four questionnaires. Table 1 displays the demographic details.

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<sup>4</sup> Based on the 2011/2012 school jurisdiction employment records, approximately 1,170 teachers were invited to participate (65 per cent of teachers completed at least one questionnaire during Phase II).



**Figure 3** Number of teachers (N = 758) who participated in Phase II

Demographic or Characteristic	Descriptive Statistics
Number of schools	72*
Years of teaching experience (N = 633) <ul style="list-style-type: none"> <li>• 0–3 years (n = 62)</li> <li>• 4–7 years (n = 121)</li> <li>• 8–15 years (n = 170)</li> <li>• 16–23 years (n = 146)</li> <li>• 24–30 years (n = 37)</li> </ul>	0–42 years (M = 14.9, SD = 9.31):
Gender (N = 642)	72.1% Female 27.9% Male
Age of teachers	< 25 years ..... (3.0%) 25–35 years .. (26.9%) 36–45 years .. (31.5%) 46–55 years .. (29.9%) 56+ years ..... (7.8%)
Teaching Level (N = 652)	44.5% elementary 24.6% secondary 20.6% middle/junior 10.1 other
Average Class Size SES of Students	23.56 (SD = 5.71) students
Teachers' Estimated SES of Students	53.8% Average SES
Teachers who led professional learning (within 6 months)	Year One (Time 1) 69.5% (98 of 141) Year Two (Time 4), 62.0% (111 of 179)
Work engagement <i>Participating teachers reported high work engagement</i>	<b>Year One:</b> Utrecht Work Engagement Scale** (1 = Disagree Strongly, 11 = Agree Strongly) M = 9.55 (Time 2) <b>Year Two:</b> Engaged Teachers Scale*** (0 = Never, 6 = Always) M = 5.28 (Time 3) M = 5.13 (Time 4)

**Table 1 Demographics of 758 teachers (Phase II)**

\* Teachers employed at the 10 schools (involved in Phase 1) and an additional 62 schools in the 10 districts responded to the questionnaires administered during Phase II.

\*\* Utrecht Work Engagement Scale–short-form (UWES; Schaeferli and Bakker 2003)

\*\*\* Engaged Teachers Scale (ETS; Klassen, Yerdelen and Durksen 2013)

# Chapter Three

## Mixed Methodology

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### 3.1 Our Focus

We set out to better understand the relationship between efficacy and professional learning by attending to five key research areas: (a) collecting diverse data from a range of sources (quantitative and qualitative), (b) accessing a large and diverse population in a range of settings (five school districts), (c) seeking to better understand the nature of professional learning (integrated data analyses), (d) examining the sources of teacher self- and collective efficacy, and (e) tracing the growth of teacher efficacy and its relationship to professional learning using a longitudinal approach. Our research attended to these five factors and bears important dividends for a deeper understanding of the links between teacher efficacy and professional learning. As a result, we can better understand what needs to be done to promote teachers' professional growth and, by extension, student learning.

### 3.2 The Mixed Methods Research Design

Because understanding teachers' efficacy in relation to professional learning is a complex phenomenon requiring a pragmatic approach, we chose a mixed-methods design with a focus on integrating different sources of data. By using a mixed-methods design we were able to reveal a new and more complete picture of teachers' professional learning and efficacy than in previous studies that relied on one data source. Specifically, we used a longitudinal, fully mixed, concurrent research design (Creswell and Plano Clark 2007). Our project was considered longitudinal since data was collected from

focus groups at two time points and using four questionnaires over a two-year period. We embraced the fully-mixed model by "mixing" at multiple stages. For example, during data collection we used the results of preliminary focus group analyses to explicitly inform questionnaire item development. Our project was also concurrent in that some stages of both phases were performed during the same time frame. For example, in Year One, we collected qualitative data using focus groups and quantitative data using questionnaires.

Creswell, Klassen, Plano Clark and Smith (2011) offer a set of *Best Practices for Mixed Methods Research in the Health Sciences*, which suggest that the strength of qualitative research is a focus on the context and meaning of human experiences for the purpose of theory development. Qualitative data help researchers understand participants' voices, facilitate data collection when measures do not exist, and provide deeper understanding. Quantitative research is used to test theories or hypotheses, gather descriptive information, or examine relationships among variables. These data can be analyzed statistically to provide measurable evidence, which helps establish probable cause and effect, facilitates the comparison of groups, and provides insight into experiences. Our integration of qualitative and quantitative data provided a wealth of evidence.

*Phase I (Time 1 and Time 2)* refers to the qualitative data collection (focus groups and interviews) and *Phase II (Time 1, 2, 3, and 4)* refers to the separate but integrated quantitative (questionnaires) data collection. *Phase I* and *Phase II* data were collected separately in Year One and increasingly integrated over the duration of the project.

### 3.3 Research Questions

Because little research has examined how professional learning contributes to teachers’ motivational beliefs, we posed the following questions:

#### Research Question 1

How is teacher efficacy enhanced through professional learning as (initially) outlined by Joyce and Calhoun (2010)?

#### Research Question 3

How do teachers explain their efficacy in relationship to professional learning?

#### Research Question 2

What were teachers’ perceived learning goals in their professional learning experiences?

#### Research Question 4

How are the sources of efficacy (*mastery experiences, verbal persuasion, vicarious experience, and affective states*; Bandura, 1997) fostered through professional learning experiences?

In answering these questions, we also hoped this study would reveal the nature of helpful professional learning.

### 3.4 Data Collection

We collected data over a two-year period using both qualitative (*Phase I*) and quantitative (*Phase II*) approaches. Table 2 displays the data collection timeline.

Time Frame	Project Activity
<b>Year One</b> (2011/2012) September–December 2011 January 2012 February–June 2012 June 2012	<i>Phase I: Time 1</i> ..... Focus Groups/Interviews <i>Phase II: Time 1</i> .... First questionnaire <i>Phase I: Time 2</i> ..... Focus Groups/Interviews <i>Phase II: Time 2</i> .... Second questionnaire
<b>Year Two</b> (2012/2013) January 2013 June 2013	<i>Phase II: Time 3</i> .... Third questionnaire <i>Phase II: Time 4</i> .... Last questionnaire

**Table 2 Data Collection Timeline**

### 3.4.1 Year One

#### September to December 2011

*Phase I (Time 1).* Our research team held focus group discussions with district teachers during the first site-based visit to each of 10 participating schools. Rich and wide-ranging conversations among teachers and between teachers and the research team were guided by the following questions:

1. What personal learning experience has made the most difference for your own teaching? Why (briefly)?
2. What professional learning experience has made the most difference for your school staff as a group? Why (briefly)?
3. What professional learning experience has made the most difference for your students? Why (briefly)?

A total of 200 teachers provided written responses to these questions. There were 191 responses to question one, 198 responses to question two, and 216 responses to question three (16 participants provided two answers) for a total of 605 comments.

#### January 2012

*Phase II (Time 1).* We administered the first of four separate questionnaires—each based on Bandura’s (2006) “Guide to Constructing Self-Efficacy Scales” and recent research (eg, Joyce and Calhoun 2010; Klassen and Chiu 2011). This initial questionnaire was created to measure relationships between professional learning (as defined by Joyce and Calhoun 2010) and self- and collective efficacy. We recruited participants for our quantitative data collection by forwarding a request with questionnaire links to administrators within five participating school districts. Administrators from each of the participating school districts were responsible for distributing our request to teachers.

#### February to June 2012

*Phase I (Time 2).* These focus groups took place between January and April 2012. From *Phase I (Time 2)* we collected 435 comments in total. We collected comments and feedback from groups utilizing a

one-page form and focus group discussions, which resulted in three separate sets of data. We presented teachers’ (N = 216) preliminary findings (*Time 1*) during focus groups (held in all 10 schools) for discussion.

Participants were informed that our initial discussions with teachers in their schools (*Time 1*) led to the identification of the following themes (examples and definitions were provided) as being crucial influences on teacher professional learning: (1) collaboration with other teachers, (2) selected projects, (3) AISI, (4) attending conferences, and (5) others (things that came up less frequently). Teachers were then given a handout with the following three sections:

**Section One** provided a space for teachers to give more information about *Phase I (Time 1)* findings. Specifically, we asked why any of the activities (presented as themes from *Phase 1*) were helpful for their own professional learning. Teachers provided 246 comments.

**Section Two** asked teachers how they would personally prioritize seven possible reasons for teacher professional learning. Teachers provided 216 rank-ordered responses on the following seven reasons:

1. Learning more about how to teach more effectively
2. Building community (sharing with colleagues and social networking)
3. Learning more about children
4. Gaining subject area knowledge
5. Offering me space and time to think
6. Coming into contact/being influenced by a significant person, teacher, mentor
7. Learning more about myself (my strengths) as a teacher

**Section Three** consisted of one open-ended question (asking if there were any further points to add). We facilitated table discussions as teachers recorded (one-page per teacher) their “review” of the preliminary findings from *Time 1* while discussing any of the participants’ additional points. Facilitators took notes and

collected teachers' written reviews. Overall, this section yielded 55 responses and 28 sets of focus group notes (consisting of 134 comments).

Conversations with teachers during *Time 2* data collection were rich and thoughtful. Many teachers noted that they were grateful to be given a chance to talk about their insights and professional learning experiences.

### June 2012

*Phase II (Time 2)*. Using the same quantitative data collection procedures as *Time 1*, the second of four questionnaires was administered (via online link) to teachers employed within the five participating districts. Based on the feedback received on the first questionnaire (*Phase II: Time 1*), the second questionnaire was a short-form version of the first questionnaire.

## 3.4.2 Year Two

### November 2012

Research team members from *Phase I* (qualitative) and *Phase II* (quantitative) compared preliminary results from Year One while considering and developing questionnaire items for use during Year Two quantitative data collection.

### January 2013

*Phase II (Time 3)*. We used the responses from teachers' Year One preliminary questionnaire results and focus group themes to frame items about professional learning and efficacy. Using the same quantitative data collection procedures as Year One, we invited teachers at *Time 3* to consider professional learning through the themes that emerged from Year One preliminary results. (See Appendix A for examples of questionnaire items used in Year Two.)

### June 2013

*Phase II (Time 4)*. Using the same quantitative data collection procedures as *Time 1, 2 and 3*, the last of four questionnaires was administered to teachers within the five participating districts. Questionnaire

items used at *Time 3 and 4* were similar and based on Year One (*Phase I and Phase II*) preliminary results.

It is worth reiterating that the *Phase I (Time 1 and Time 2)* researchers did not formally introduce the five categories of Joyce and Calhoun's (2010) professional learning models to participants in the focus groups; rather, the researchers intentionally collected general comments, then sorted for themes and once those themes were determined, moved to fit those themes and corresponding comments into the Joyce and Calhoun model. *Phase II* (quantitative questionnaires), however, intentionally presented the five categories to teachers in order to discover how efficacy items would be related to specific pre-identified categories.

## 3.5 Mixed Data Analysis

In Year One, we performed preliminary data analysis for each phase (separately). In Year Two, we continued to collect data (*Phase II: Time 3 and Time 4*) while performing integrative analyses.

### 3.5.1 Year One

*Phase I (Time 1)*. Teachers ( $N = 200$ ) provided 605 comments in response to three questions (listed on page 35) and themes emerged from our two-step sorting process. First we reviewed and analyzed the teachers' comments and then listed all the answers together as well as separately (according to question). We looked for similarities and recorded the number of responses—for each question independently and then for all questions as a whole. This process resulted in a list of preliminary themes. The second step of our analysis involved reviewing each set of notes, creating a data display and recording the frequency of themes evident in teachers' responses. Next we listed general incidence rates (frequencies and percentages) and sorted data into themes. We identified the following broad themes (types of professional learning), listed from most to least comment frequency:

1. Collaboration with others
2. Special projects

3. AISI\*
4. Attending conferences
5. Postgraduate studies
6. Book studies
7. Personal life experiences

Insights gained from the *Time 1* responses were used to develop themes that were later used to construct workable focus group questions for *Time 2*.

*Phase I (Time 2)*. Teachers ( $N = 216$ ) completed one questionnaire (consisting of three sections) during group interviews. We divided data from the three questionnaire sections and corresponding focus groups between two different research groups for analysis. Data from Section One (general follow up questions) and Section Two (rank order) as well as the brief comments in Section Three were analyzed by *Time 1* researchers (who were familiar with emerging themes). A researcher who was blind to the purpose of this study analyzed the raw data from Section Three (focus group notes). We reviewed and sorted 246 brief, handwritten responses that teachers ( $N = 216$ ) provided through Section One, which resulted in the following five core themes (using participating teachers' terminology):

1. Collaboration with other teachers
2. Attending conferences
3. AISI\*
4. Selected projects
5. Other (time, personal experiences)

\* Note: As is evident above, Alberta teachers refer to AISI in a wide variety of formal and informal professional learning categories, including conferences, workshops, teacher-leaders, mentors, teacher collaboration, technology training and funding that made it possible for individuals or pairs of teachers to work on specific projects.

Next, we analyzed the data teachers ( $N = 216$ ) provided through Section Two (rank order of top seven reasons for professional learning). In focus groups (with our questionnaire) we asked teachers to consider the possible reasons for teacher

professional learning that were gathered during *Time 1*, and to rank each reason based on what they personally believe is most crucial (1 = most valuable to 7 = least valuable) while acknowledging all as important reasons. Teachers recorded their responses within Section Two of the questionnaire. We calculated final scores and determined the mean of responses in order to yield an overall rank order (please see our *Results* section for these findings).

Our analyses proceeded with data collected through Section Three of the questionnaire (additional information or final comments): 55 brief handwritten individual comments and over 134 handwritten comments from 28 sets of focus group notes. Two researchers independently analyzed the data and combined results based on strongest correlations between the independent findings. The original research team reviewed, transcribed and sorted the 55 brief comments into the following themes: (1) *Collaboration and Community*; (2) *Time*; (3) *Selected Projects*; (4) *This Research Study*; (5) *Technology* and (6) *Other*.

Next, the handwritten comments from the focus group notes were given to a second researcher who was not part of the original *Phase 1* data collection, and this data was sorted into 28 sets of notes (containing over 134 comments). This portion of the qualitative analysis was completed in two steps. First the sets were numbered, read and highlighted to discern repetitive topics. Then we transcribed and entered the sets of notes into a data display to sort comments into themes. Frequency counts were recorded for themes mentioned within the 134 comments.

Broad themes representing professional learning (as identified during *Phase I: Time 1*) by the "cold review" researcher were (in order of times mentioned):

1. Collaboration in its various forms
2. Conferences as both PD and networking opportunities
3. Other methods of PD
4. Preferred focus of PD or collaboration
5. Choice vs no choice in PD

6. Embedded vs not embedded PD
7. Issues and challenges to PD collaboration and networking

Upon consideration of the theme *preferred focus of PD or collaboration*, our next analysis stage was guided by the question: What do teachers want to learn or do through PD or collaborative events?

We reviewed the data for responses and found three general categories and 10 subcategories to this question (please see *Results* section for details). After the original research team reviewed the dataset (from *Phase I: Time 2–Section One*) and brief responses (from *Phase I: Time 2–Section Three*), our impartial researcher (blind to the study's purpose) reviewed and sorted the 301 comments (from Section One and Section Three) according to themes. We then compared the findings.

Commonalities and strong correlations emerged when comparing the two sets of findings (Section One and Section Three as analyzed by two different researchers). There were some noted differences between the two teams' analyses and themes, particularly with regard to AISI as a form of professional learning (see *Results*); therefore, our researchers amended the original lists of themes.

*Phase I (Time 1 and Time 2)*. Next, we combined all *Phase I* data into a new holistic data display (of 435 comments). Overall, teachers reported the following professional learning activities (themes) as influential:

1. Collaboration with other teachers
2. Conferences
3. Special/Selected projects
4. AISI as a form of professional learning and collaboration
5. Other forms of professional learning (personal study, reflection, time, choice).

*Phase I (Time 2)*. For our next stage of analysis, we compared the combined data and themes from *Phase I (Time 2)* with Joyce and Calhoun's (2010) five models in search of correlations. We noted a

number of strong correlations between themes. Then we created a matrix display using Joyce and Calhoun's five modalities with all 435 sorted comments. It was necessary to add qualifying language to the matrix headings in order to differentiate between Joyce and Calhoun's broad criteria for the collaborative and cooperative categories and what the teachers were describing.

*Phase 1 (Time 1 and Time 2)*. Our final sort utilized Joyce and Calhoun's (2010) models as key thematic headings, but added the descriptive criteria provided by the teachers' data to further clarify and differentiate how teachers may view Joyce and Calhoun's collaborative models:

- 1. Collaborative and cooperative models:** special projects that are based on culture, student or classroom management or general teaching styles. These models include networking, discussion groups, small and large collaborative projects not specifically for curricular or content change.
- 2. Models designed to achieve curricular and instructional change:** special projects that are division, school, grade or subject based such as same-grade PLCs; such collaborations include working together to update curriculum, codevelop and share resources, literacy/ numeracy focused projects, changes to assessment practices, AISI or district-wide implementation of key pedagogical or curricular theories.
- 3. Collaborative personal/professional direct service models:** one-to-one support strategies, such as mentors, coaches, teacher-leaders and AISI resource coordinators.
- 4. Conferences and traditional workshop models:** conferences, school or district workshops (such as AISI conferences), school-based training (eg, technology in the classroom), technology conferences, teachers' conferences.
- 5. Models that support individuals:** self-directed and self-selected professional development such as solitary reflection, independent action research, book studies, completing graduate degree programs, release time for researching new curriculum, or funding to attend specialty

training pertaining to a particular subject or need (ie, strategies for ADHD students) constituted the last broad theme, and captured those themes previously referred to as *other, other forms of PD, time and choice*.

*Phase II (Time 1 and Time 2)*. In Year One, we invited teachers to rate self- and collective efficacy apart from and in reference to professional learning. Teachers were initially presented with the five categories and asked to rate efficacy-related items in relation to those categories of professional learning. Efficacy questions in relation to *professional learning* included examples of categories based on Joyce and Calhoun's (2010) five models (see Appendix B).

### 3.5.2 Year Two

*Phase I and Phase II*. Results from *Phase I (Time 1)* informed *Phase I (Time 2)* data collection, and the results were shared and discussed with our *Phase II* team. In Year One, *Phase II* data from Likert scale items were analyzed (descriptive statistics, ANOVA, linear regressions) using SPSS (IBM Corporation, 2012) while open-ended data were reviewed for explanations and descriptions beyond the collected quantitative data. Preliminary results of data collected during *Phase II (Time 1 and Time 2)* led to a review of the themes that emerged from *Phase I*, and consequently informed questionnaire items developed for *Phase II (Time 3 and Time 4)* using refined professional learning categories (see Appendix B, third column). For example, due to teachers' consistent reference to AISI as a different *form* of professional learning—a category unto itself—we carried their language into Year Two. Content analyses of open-ended questionnaire responses (*Phase II*) were performed to yield general findings for integrative inferences.

# Chapter Four

## Results

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This section reviews and integrates the results of our collective research. Similar to other mixed methods research, research questions both stood on their own and were considered for what they revealed collectively. In this section, we organize results not chronologically but by the research questions.

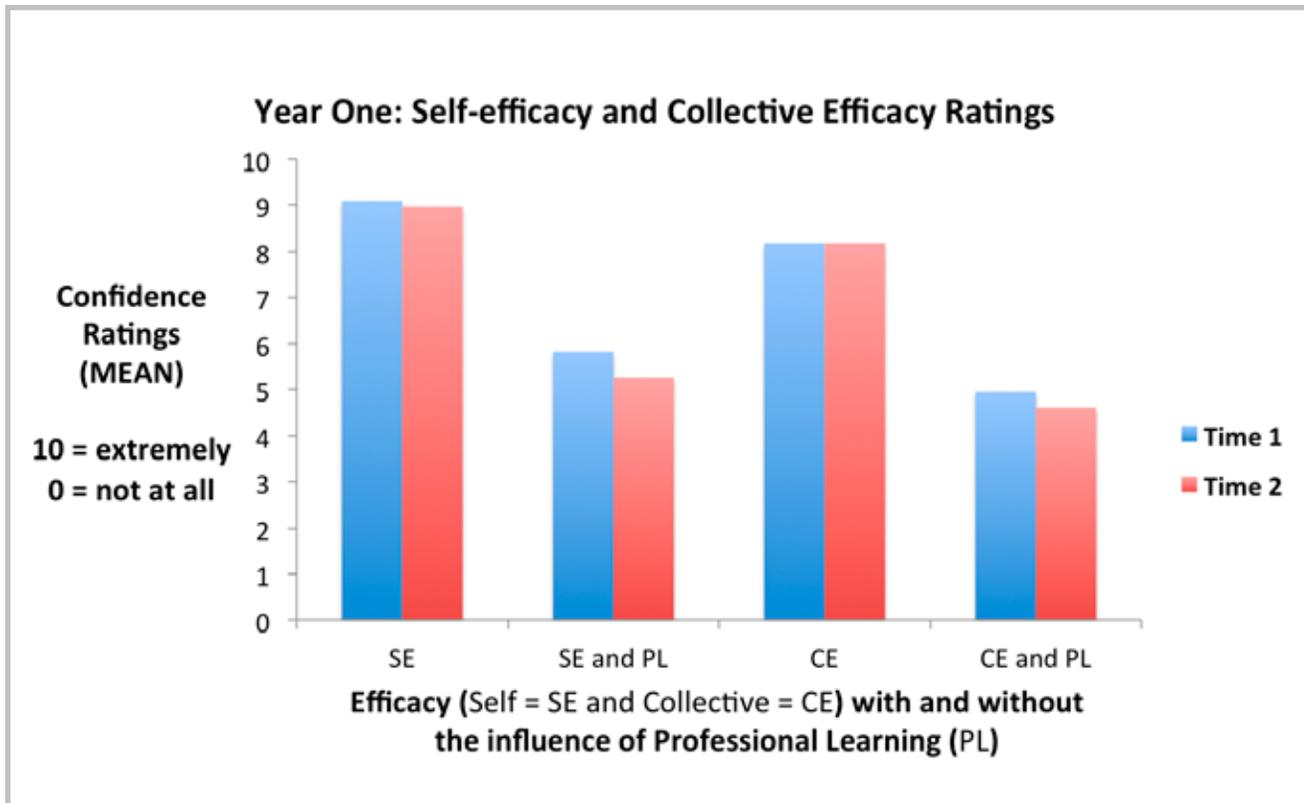
### 4.1 How was teacher efficacy enhanced through professional learning experiences?

Through January and June 2012 questionnaires (*Phase II: Time 1 and Time 2*), researchers asked teachers first to provide personal ratings of self- and collective efficacy and then to provide ratings in relation to professional learning experiences. As presented through Figure 4, teachers (*Time 1: N = 198, Time 2: N = 328*) rated self- and collective efficacy moderately high, while professional learning activities were considered a moderate influence on self- and collective efficacy.

Next, we tested change over time for teachers ( $N = 59$ ) who completed items at both *Time 1* and *Time 2*. Although we found a nonsignificant change in self-efficacy from January (*Time 1*) to June (*Time 2*), it is worth noting that early- and late-career teachers reported a slight decrease, while mid-career teachers reported a slight increase. We did find a statistically significant ( $F_{1,58} = 11.35, p = .001$ ) decrease in collective efficacy (8.47 to 7.77) from January to June. There was a statistically

significant difference between teacher levels (elementary and middle/secondary) at *Time 1, 2 and 4*, where elementary teachers consistently reported higher self-efficacy. There was also a statistically significant difference between teaching levels (for all four time periods) where elementary teachers also reported higher collective efficacy. When asked to rate efficacy in relation to five types of professional learning, teacher-initiated activities were reported as having the most influence on teachers' self-efficacy. Figure 5 displays results from Year One, where PLCs (with professional service and curricular initiatives) had the most influence on collective efficacy. Self-efficacy was most influenced by teacher-initiated experiences with the exception of efficacy for assessment. Although collective efficacy was most influenced by PLCs, teacher-initiated activities greatly influenced efficacy for working with parents, and professional service influenced efficacy to collaborate with the community.

Similarly, in the majority of comments from both sets of *Phase I* focus groups conducted in Year One, teachers expressed clearly and consistently that multiple forms of teacher-initiated or self-selected professional and collaborative learning had positively influenced their sense of self-efficacy and their school's or team's efficacy (collective efficacy) in a number of ways such as becoming a more cohesive team, developing accessible materials and tools, exploring ways to increase student engagement, and learning new skills. Of the five different Joyce and Calhoun categories, *collaborative models* were deemed the most effective and impactful for both self-efficacy and collective



**Figure 4 The influence of professional learning on efficacy in Year One (Phase II)**

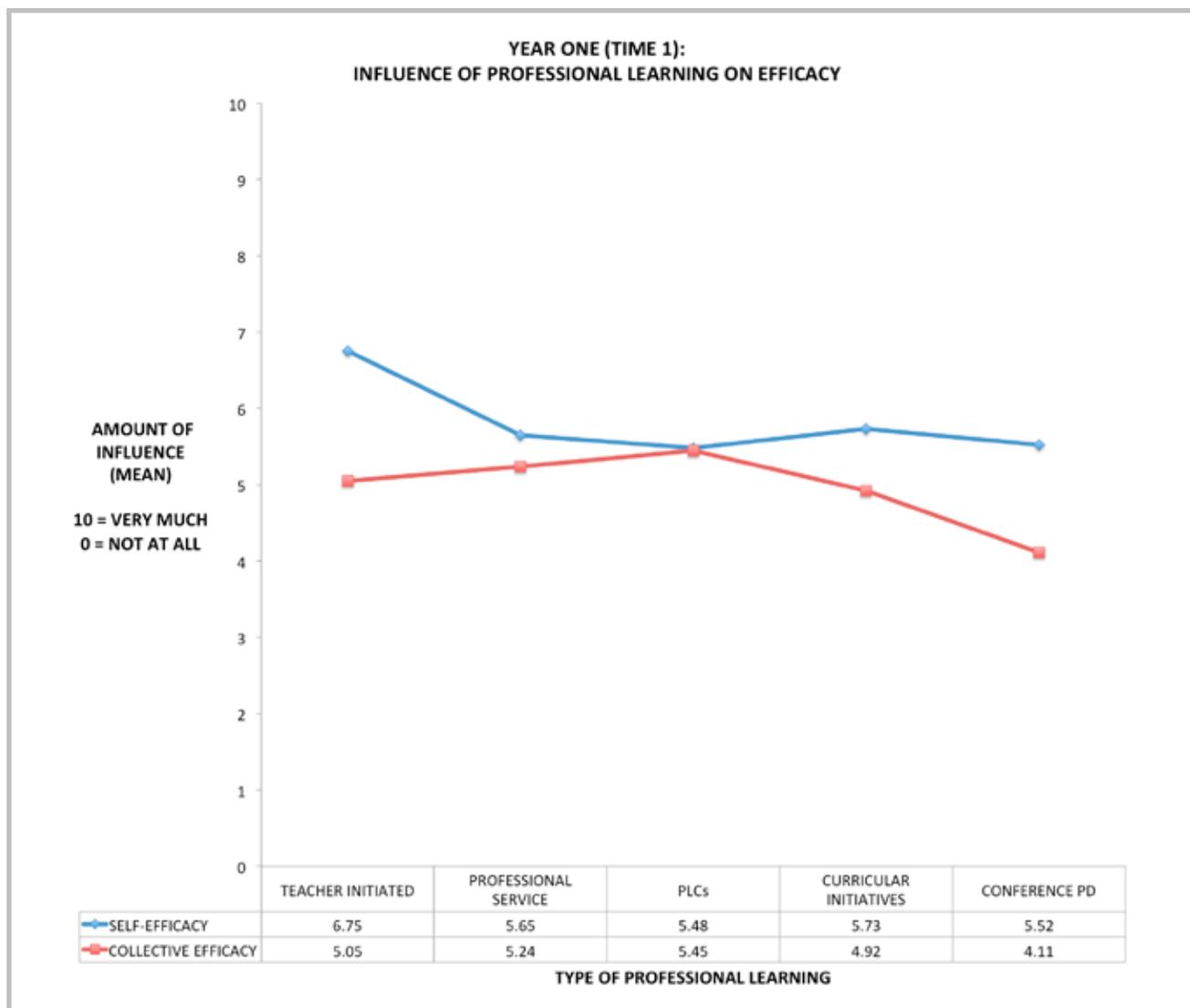
efficacy. Collaboration was foundational to multiple professional learning models: this collaboration included *collaborating with others*, *special projects*, *AISI*, and *some conferences*, most notably those that allowed for networking and working with others.

Also during *Phase I (Time 1)*, teachers identified the types of professional learning that made the most difference to their self- and collective efficacy beliefs, and to their students, varied in effectiveness across areas for improvement. An analysis of over 600 responses to the three questions (noted earlier) resulted in sorting the responses into the following seven themes (arranged according to frequency, most to least):

1. Collaborating with others
2. Special projects
3. AISI
4. Conferences
5. Graduate studies
6. Book studies
7. Personal life experiences

Our findings revealed *collaborating with others* and *special projects* (also considered collaborative) as the top two forms of professional learning making the most difference to teachers' sense of self- and collective efficacy and the most impact on student learning. Though personal life experiences offer rich opportunities to reflect on and enhance teaching practice, it appears that teachers are less likely to assimilate these activities within a personal definition of "professional learning." To read sample responses from teachers (grouped thematically according to influence on own teaching, staff as a group, and students), see Appendix C.

As noted in Section 3.5.1, the final set of themes (revealed through a series of *Phase I (Time 2)* analyses and then aligned with Joyce and Calhoun's (2010) five models), further describe what were viewed as the most influential forms of professional learning on teacher self- and collective efficacy:



**Figure 5 Influence of professional learning on efficacy (Phase II: January to June 2012)**

- 1. Collaborative and cooperative models** included special projects that are focused on culture, student or classroom management or general teaching styles. Examples may be discussion groups, networking or team building, or small and large collaborative projects that were not specifically focused on curricular or content change.
- 2. Models designed to achieve curricular and instructional change** included special projects that were division, school, grade or subject based, such as same-grade PLCs. Such collaborations include working together to update curriculum, codevelop and share

resources, literacy/numeracy-focused projects, changes to assessment practices, AISI, or districtwide implementation of key pedagogical or curricular theories. There were often “products” or “shared deliverables” involved in these types of collaborative projects.

- 3. Collaborative personal/professional direct service models** involved one-to-one support strategies through service roles (ie, mentors, coaches, teacher-leaders and AISI resource coordinators).
- 4. Conferences and traditional workshop models** included conferences (general or specific), school or district workshops, AISI conferences and

Joyce & Calhoun (2010) Professional Learning Models*					
	Collaborative Cooperative Models	Curricular and Instructional Change Models	Collaborative Professional (1-1) Service Models	Conference or Workshop Models	Teacher-Initiated Models
Examples specific to Alberta Education	Special Projects  Discussion groups (not curricular)  Networking  Culture/ student or classroom management	Special projects (specific to course or grade level)  Division projects (curricular)  AISI  Literacy/ numeracy	Mentor or Coach	Conferences  School or district workshops (eg, AISI)	Solitary reflection  Specialist development (eg, ADHD, subject-specific)  Action research
Percentage of comments /435**	75%	43%	25%	23%	21%

**Table 5 Examples of professional learning in Alberta**

\* order of preference based on when *Phase I* data were combined

\*\* many comments fit into multiple themes

school-based training (eg, technology in the classroom).

**5. Models that support individuals** were primarily independent activities that were teacher-initiated (self-directed or self-selected) including solitary reflection, action research, book studies, degree programs, release time for researching new curriculum, or funding to attend specialty training (ie, needs related to subject or students). This category also captured the previous themes of *other, other forms of professional learning, time and choice*.

As displayed through Table 5, the 435 comments were sorted into one or more of the above five categories. It is important to restate that many of the individual comments fit into multiple categories

since teachers often answered the question of “what works best” with multiple models, for example: “*The themes are not mutually exclusive—attending conferences must be combined with collaboration*” or “*We get new ideas from conferences or collaboration then still get time to implement them.*”

*Overarching theme of collaboration:* In response to the three questions posed during *Phase I (Time 1)*, the number one answer for all three questions was “collaborative” in various forms of professional learning. In the focus group notes from *Phase I (Time 2)*, the term *collaboration* was mentioned in 100 per cent of the responses as a key factor of teacher professional learning. In the final sort of *Phase I (Time 1 and Time 2)* data, three differentiated forms of collaboration emerged (in order of

most preferred and effective according to the teachers): collaborative peer learning, collaboration among similar subject areas or grade levels, and collaboration cross-division, subject or grades, as well as among different schools or divisions. If conferences are considered a form of collaborative professional learning, with which most teachers in our study would agree, then collaboration was essential in four out of five professional learning modalities.

During *Phase I (Time 2: Section Three)*, focus group participants revealed the theme of collaboration for professional learning purposes as essential. Collaboration took different forms from group to group, with the following sub-themes emerging from the data:

1. *Collaborative peer learning* (78.6 per cent): the preference for peers to serve as mentors, coaches or one-on-one peer feedback partners was noted, as opposed to having “experts” inform practice. Because peers are living and working in similar conditions, with similar students, peers help to clarify and affirm ideas in context, and can demonstrate strategies on site, thus serving as role models or learning partners on a more regular, embedded basis.
2. *Collaboration among similar subject areas or grade levels* (71.4 per cent): talking to subject experts within/outside your school on common topics, grades or subjects was discussed and mentioned as also valuable. For example, Science 11 teachers value meeting with other Science 11 teachers to codevelop materials, share resources and learn from each other. Grade 2 teachers enjoyed working with other Grade 2 teachers and found that conversations often turned towards sharing strategies and insights for particular students.
3. *Collaboration among different or cross-division, subject, or grades, as well as among different schools or divisions* was rated quite highly as well (35.7 per cent). Key purposes noted were transition planning, learning different or new subject areas and learning different pedagogical approaches from peers and experts in other areas or from different schools. The need for teachers to collaborate with educational assistants (EAs)

or other educational professionals (ie, speech pathologists) was also expressed through the data.

When all three sections of *Phase I (Time 2)* data were examined for correlations with Joyce and Calhoun’s (2010) five modalities, collaboration remained the most preferred model. However, the more popular group collaboration model was divided into slightly different categories than those revealed through *Phase I (Time 2: Section Three)* analyses. As a result, collaborative models represented through the *Phase I (Time 1 and Time 2)* combined data were re-sorted according to *purpose of collaboration* and *collaborative peer learning* (considered *direct services or mentorship*). What follows are the five models of professional learning cited by teachers, beginning with the most preferred model. Note that the five models are not mutually exclusive; therefore, teachers’ comments may have been representative of more than one model.

#### 1. Collaborative and cooperative models

(75 per cent) included special projects relating to culture improvement, student or classroom management, but were noncurricular in general and were more communication or relationship focused. Although this model was not necessarily curricular-focused, overlap in the data was evident. This more informal form of collaboration was the most preferred of all types of professional learning.

The underlying message in the teachers’ comments was that this form of professional learning was foundational to increasing teacher efficacy and collective efficacy, and was essential for supporting student achievement and engagement. This model often offered more flexibility or choice than the more formal or structured projects of curricular collaborations. Collaborative activities were also where issues of safety, trust and relationships were necessarily developed before moving into more challenging curricular change projects, for example:

- a. **Team building** activities (57.1 per cent in *Phase I: Time 2, Section Three*) were valued by some teachers because of the opportunity to get to know each other or to induct

new teachers into the school. *Relationship development, Community Building and Faith Days* (an element of Alberta's Catholic schools) were reported as particularly valuable and important opportunities for establishing the trust and rapport required for teachers to learn how to collaborate and work together on more focused or formal projects.

**b. Team teaching** (4 per cent) provided teachers with opportunities to share knowledge about students common to all teachers or strategies for how to better support students. According to focus group participants

- Collaboration allows for safe, comfortable ways to share ideas and learning.
- Teaching is no longer done in isolation—change in philosophy to “how can we engage students?” versus constant notes, readings, quizzes, tests.
- Mentor teachers are helpful for bouncing ideas. Collaboration makes me WANT to participate.
- [Team teaching] feeds wisdom we have, creates teamwork. Critical in training teachers in things outside their own passion areas: ie, coaching, presenting, mentoring, designing learning tasks/rubrics/ criteria assessment, what feedback loops are and why they are so critical. Team-teaching is especially powerful—would be nice to offer at schools.

**c. Meeting students' needs** (11 per cent) through collaborative models was highlighted as the best way to address student needs. Of the 435 comments, 49 comments that specifically mentioned students were found under the categories of collaborative professional learning. According to participants, when teachers collaborate with each other, as well as with EAs and other school staff or even with outside experts, teachers are more likely to know students better and adapt their teaching approaches to better meet students' needs.

- *The building is like a family—could not survive at this school without collaboration—all this helps kids.*

- *Collaboration—to clarify ideas, share methods and strategies to increase student learning... [Special team] monthly meetings, colleagues meeting on regular basis, banking resources, share resources.*
- *With experience, you want to get more efficient; you may follow the same worksheets, but each year it changes, the assessments change. Every year you recreate how you teach. (We have) very diverse students, really mixed students—need to be able to adapt quickly.*
- *Grade partners—starts with student concerns.*
- *Focused collaboration (like data analysis) gives teachers tools to discuss student learning.*
- *Especially when they know the same students who I teach, this is most meaningful. Gain knowledge and practical advice through sharing and consistent professional development.*
- *[Collaboration] was good for getting to know students.*
- *With the other two Grade 2 classrooms in my school, we have created projects, common assessments and constantly discuss student needs.*

**2. Collaborative models that were designed to achieve curricular and/or instructional change** (43 per cent) were considered similar to collaborative and cooperative models but slightly more formal and focused. These models were often implemented as special projects that were division, school, grade or subject specific; for example, same grade or department teams collaborating to update or initiate curriculum changes, conducting literacy or numeracy focused projects, making changes to assessment practices, or intentionally working together to co-develop and share resources. This form of collaboration was the second most preferred of all types of professional learning. Collaborative models for curricular change also included Professional Learning Communities (PLCs) and other collaborative learning groups focused on curricular or instructional change. Teachers expressed that

- *Collaboration is really helpful for grade teams. Reflecting together in grade teams—working*

together with other teachers—collaborating is so important to teaching.

- Small group PD (is good) such as Social/ELA—six people with an expert—creates intimacy. Difficult to express ideas in big groups.
- Great to work with grade partners and teachers in other grades because: a) time saver, b) learn new techniques and c) compare how we evaluate.
- Collaboration with teachers within subject areas across the Division—four times throughout the year, no other topics on the agenda, allows curricular, open-ended, self-directed PD as required.
- Has helped in math, especially with new curriculum. Strengthened skills/knowledge and helped to develop exams, etc. Also helped to understand some of the students.
- To strengthen knowledge/skills/understanding of concepts in curriculum, I go to teachers teaching similar subjects. But other issues (learning styles, assessments) have come from teachers in different subject areas, who often learn differently and help show diversity of learners.
- LA/Eng School or Divisional PD—we do lots of collaboration!
- Really been influenced by being a part of my school's PLC group for my division. Having time each week to meet and work on our data and our instructional strategies is good. We help each other by offering suggestions for issues with particular students.

**3. Collaborative personal/ professional direct (1-1) service models** (25 per cent) were presented as the third most preferred category. This was an important category of professional learning where an individual teacher is assigned to another teacher, or to several other teachers, for the purpose of getting to know the teacher or teachers, addressing specific needs or providing general help and guidance in a particular area. Mentors and instructional coaches are two of the most common forms of personal direct service, but this model also included a variety of less formal one-on-one supports including access to teacher-leaders, AISI resource coordinators, and voluntary peer learning partners.

While still collaborative, the focus was more individualistic and provided one-to-one (ie, mentor, instructional coach) support as opposed to support delivered in small or large school or department wide groups.

- Learning coaches—open door, welcoming, videos, resource providers “on the lookout for”; proactive. Invested in it, so it's meaningful. Relationships with the students/teamwork as a whole.
- [If I] want specific critique—from mentors; collaborate with like-minded/ similar background.
- Works because mentoring of new teachers by experienced ones about what works and what doesn't (knowledge gained by different PD is shared); new techniques picked up; time saver.
- For starting teachers, collaboration and conferences are the best. For experienced teachers, selected projects based on interests and mentorship. These things change as your career changes. It is all based on your place in the process.

**4. Conferences and traditional (single-event) workshop models** (23 per cent) included training to learning new content or theory through events such as conferences, school workshops or PD sessions, institutes and districtwide gatherings, such as AISI or teachers' conferences. If considering the first three categories of professional learning under the general theme of *collaboration*, then *conferences* were rated as the second most preferred method, both in the combined *Phase I* data analysis and specifically in analysis of *Time 2* (Section Three). However, when all 435 comments were analyzed, against Joyce and Calhoun's models, *conferences* aligned with Joyce and Calhoun's (2010) *traditional workshop models* (including conferences, school or district workshops and AISI conferences).

Our data revealed that conferences were sometimes considered *collaborative* and other times as *solitary* or *specific*, depending upon the teacher, the conference, the purpose of attendance and the topics covered. Some specialists preferred to attend subject-specific conferences or workshops to learn from experts in their field, which would fall under *teacher-initiated models that support individuals*, whereas other specialty teachers will go to the same

subject-specific conference with the intention of networking or collaborating with other teachers in their field (as they may be the only teachers in their district or school that work in their specialty or department, and they need some peer or small group support). High school specialty teachers, in particular, preferred attending subject-specific conferences as a form of solitary professional learning as opposed to attending generalist conferences or workshops.

The data was unclear on how or if these teachers collaborate with others once they return to their schools. Although there was discrepancy within the 435 comments as to how valuable various conferences are for professional learning, the majority of comments reflected that peer networking is a valuable part of all conferences, so we could also group this category with the other collaborative models (see Appendix D for conference-related quotes from focus groups). From the analysis of *Phase I (Time 2: Section Three)*, two additional themes surfaced (within the general category of conferences) with a focus on the *purpose* of conferences:

- **Conferences as networking events** (50 per cent): Many teachers valued the opportunity to learn from speakers and meet (and learn from) other teachers. The request, therefore, for “longer lunches” or scheduled time and space for conversations or collaborations was mentioned several times.
- **Conferences for learning latest theories from specialists/experts** (32 per cent): This focus on specialists was reported as more important to high school teachers who sought specialized subject updates, resources and ideas from experts or knowledgeable peers in the same field. Some primary and middle school teachers also valued learning more about the latest theories, curriculum or pedagogical research in this way. Most teachers, however, stated that, although they enjoy conferences, they also desire scheduled collaborative time in their school groups to *implement* the theories and integrate the content *after* the conference.

Workshops that offered concentrated time of specific content over a short period of time (eg, half-days) or institutes (over a number of consecutive days) also provided teachers with opportunities to gain new knowledge by focused reading, discussing and listening to expert speakers. Some teachers valued the opportunity to view or create demonstrations of new knowledge, particularly when given time to plan how they will integrate new knowledge into classroom teaching. The request for time to work together to implement learning was strongly stated during the focus groups.

As mentioned, AISI conferences were often mentioned as a form of professional learning, with mixed reviews as to their efficacy. The *Phase I (Time 2)* focus group comments covered the broad uses of AISI and some suggested that AISI’s “big picture” goals or district directives, as communicated through conferences, were either too restrictive (32 per cent) or too vague (25 per cent) for implementation at local levels. Teachers reported that, although they enjoyed the AISI conferences and appreciated the learning and networking opportunities, they had no time to determine how to implement the theories such as *Differentiated Instruction, 21st Century Learning and Assessment for Learning* once they were back in their own schools. On the other hand, the opportunity to *collaborate* through the use of AISI funding, teacher-leaders or special projects really engaged some teachers. Overall, our key point is that AISI appeared through *Phase I* and *Phase II* data as *synonymous with collaboration*; in fact, the underlying collaborative nature of most AISI projects and conferences may have been their greatest contribution to professional learning. (see Appendix E)

##### 5. Models that support individuals (21 per cent).

The final form of professional learning preferred by teachers who participated in our focus groups were those that included a range of self-directed and self-selected (teacher-initiated) experiences such as solitary reflection, independent action research, book studies, completing degree programs, release time for researching new curriculum or funding to attend specialty training pertaining to a particular subject or need

(eg, strategies for students with ADHD). This model also captured themes previously referred to as *other, other forms of professional learning* and *time*. One could say all forms of professional learning support individuals; however, the key here is that this form of professional learning was independent and often solitary.

Under the category of teacher-initiated models, there were three solitary or self-directed forms of professional learning that surfaced in the data from *Phase I (Time 1): Graduate Studies, Book Studies and Personal Life Experiences*. The three individual-support themes were sometimes preferred in combination with other forms of professional learning, such as *in addition* to conferences, and sometimes as their only preference *instead* of conferences or collaborative learning. Yet in the findings from *Phase I (Time 2)*, these three forms were more diffused, and instead there were two strongly overarching themes or “requests” with regard to solitary or individual professional learning. The two main themes that surfaced were *Time* and *Choice*.

- a. Time.** Focus group data contained over 90 comments specific to time. The theme of time showed up in two ways: *amount* (ie, more time or to have release time/designated time to work on individual goals or collaborative projects) and *when* (ie, during daily working school hours or outside of school hours so as to not disrupt classes). Many preferred professional learning as an open but allotted time slot that one can move as needed. Examples included having more autonomy by having the support of scheduled time, classroom coverage or administrative permission to do planning, set agendas, work on projects, have peer conversations, or just have time and space to think, as needed (75 per cent in *Phase I: Time 2–Part Three*).

Some respondents (35.7 per cent in *Phase I: Time 2–Part Three*) preferred having scheduled reflection time to just talk and think alone or with peers (full day/scheduled minutes of *nontangible* reflection time). Teachers preferred reflection time to be without tangible outcome requirements or

expected products or deliverables. The majority (67.9 per cent) of comments showed a preference for professional learning to be embedded within school hours so they have regular time together—including school-based projects, weekly or monthly meetings, in-class mentoring and learning opportunities, and intentional collaboration during school time. In contrast to that, some (17.9 per cent) were adamant that professional learning not be embedded within school hours. These teachers recommended events be separate from school, in time and location (including meetings outside of division and outside of school hours so as not to take away from class time, or having separate events such as retreats and conferences). For time-related quotes from teachers’ open-ended responses to efficacy items on *Phase II* questionnaires, please see Appendix F.

- b. Choice.** Throughout *Phase I*, recurring themes emerged around teachers having choice in their professional learning goals and participation levels. Specifically, teachers associated autonomy with *effective* professional learning. For example: “*Professional learning should not be a blanket to encompass all things. Teachers need to have a voice and a choice in the areas that most concern them professionally. Many times we are being dragged down a road that others deem to be important. I think facilitators and participants would benefit from optional professional development. I am not talking about opting out, just picking professional learning opportunities that are relevant to your needs.*” Throughout our findings (*Phase I and Phase II*), the topic of choice revolved around whether teachers were able to self-select their professional learning activities or not, and also whether professional learning should be considered a mandatory group activity. The two sub-categories that emerged from the *Phase II* data were:

- *Teacher-initiated (self-directed or self-selected) or collaborative professional learning* (89.3 per cent in *Phase I: Time 2–Section Three*). Most teachers felt that individual teachers should be able to determine their own learning goals and collaboration activities according

to their individual professional needs. Some felt that they should be allowed to opt out of collaborative PD or conferences and events if they were not relevant to their subject area or needs.

- *Directed professional learning or collaboration* (28.6 per cent in *Phase I: Time 2–Section Three*). Some teachers believed in the “everyone on board” principle, wherein everyone is included and required to participate in a singular focus/unified theme or at least in some collaborative teams or projects. In these cases, collaboration and professional learning would be directed or prescribed from “top-down” and based on AISI driven or district/school derived themes (or alternately from grassroots perspectives), as codetermined by teachers and administrators around a school’s specific needs. Regardless of how the development goal is selected, *everyone is on the same page*. Open-ended responses collected from *Phase II* participants also included comments of “being on the same page” or “speaking the same language”.

## Additional Issues and Challenges

Additional key issues and challenges in setting up successful and collaborative professional learning activities were repeated throughout the qualitative data. These issues and challenges would fall somewhat outside of the themes already noted and fit into a few minor subcategories:

- *Isolation* (13 per cent) experienced by teachers was expressed through logistical difficulties with connecting with peers outside of school/division or in staying connected with peers that one met at conferences. For example, five respondents suggested the need for a system for communicating and collaborating with teachers and experts who live beyond one’s geographical areas. Rural schools experience isolation from other more geographically accessible schools. Smaller schools may not have similar subject

area colleagues to work with. As one *Phase II* respondent said “the teacher works mostly on her own.” Second language educators (ie, French immersion or French language teachers) also noted a lack of subject-area staff and thus a lack of opportunity for collegial sharing. Several noted that they would desire someone else in their subject area with whom they might talk about teaching issues and ideas.

- *Difficulty with how to collaborate fairly and effectively* (32.1 per cent) was a significant theme. Teachers expressed multiple challenges, such as lack of skills in facilitating teachers, administrators and schools in making the “paradigm shift” required (14.3 per cent); lack of dedicated time (42.9 per cent) and lack of strategies to engage or support those who do not choose to collaborate as “forced collaboration does not work” (25 per cent). Also within this category is the challenge of increasing the levels of trust and comfort in risk taking and peer coaching. “Some teachers are not comfortable going into each other’s rooms...some are not comfortable taking risks...this comfort level needs to be established” (21.4 per cent).
- *Diverse needs of different cohorts* were highlighted through teachers’ responses and based on a number of differences between primary and secondary school teachers’ needs. Our data suggests that secondary school teachers would like professional learning with more subject matter expertise, topic specific resources and technological support (28.6 per cent). Primary teachers were more focused on core learning strategies, developing teaching resources, literacy and numeracy projects and networking.

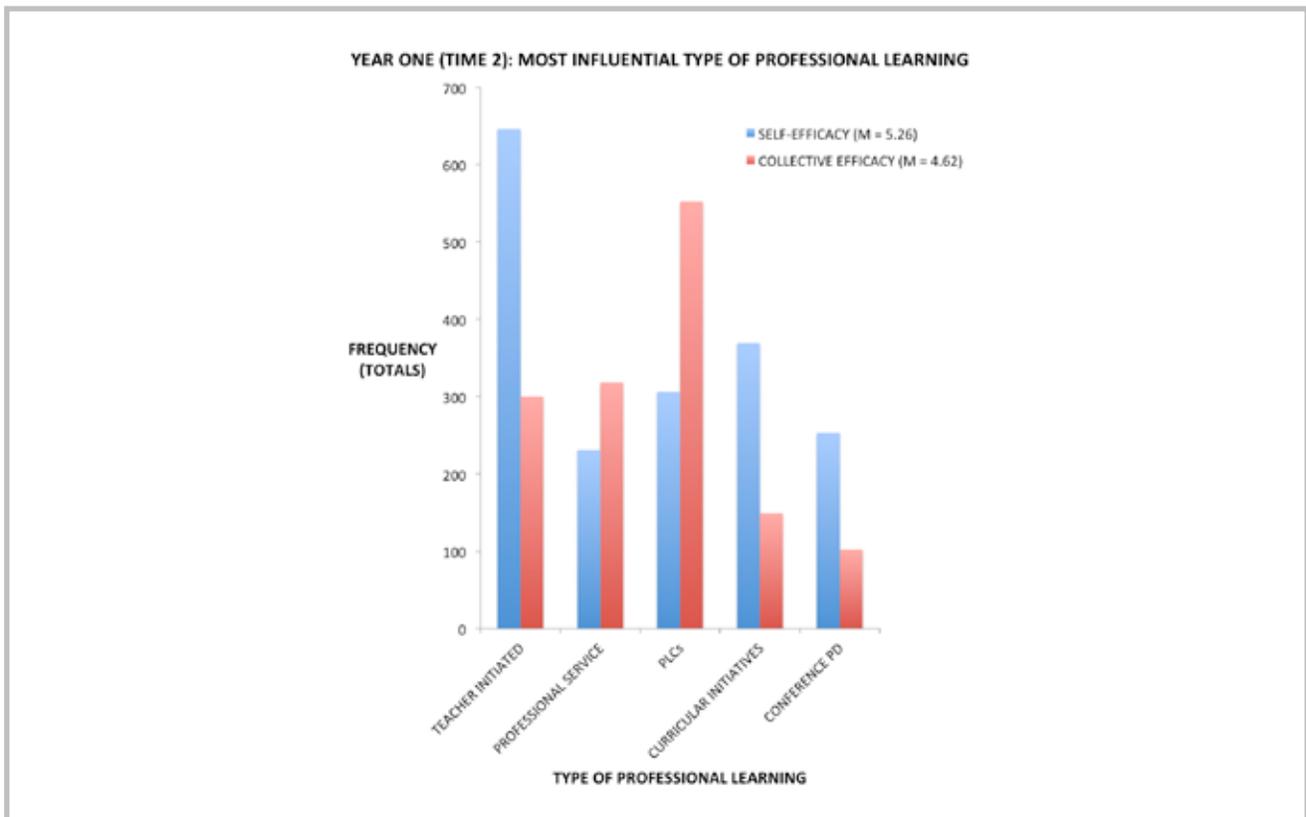
As presented through Figure 6, the findings from *Phase I (Time 2)* indicate that collaborative and cooperative models (ie, noncurricular special projects) were considered the most influential forms of professional learning (when all 435 comments were combined).

The efficacy-specific findings from *Phase II (Time 2)* revealed that teacher self-efficacy was most influenced by teacher-initiated models, and teacher collective efficacy was most influenced by PLCs (see Figure 7).



**Figure 6 Influential categories of professional learning (Phase I)**

Note. Some comments overlapped into multiple categories so the sum of percentages does not equal 100.



**Figure 7 Influential categories of professional learning (Year One: Phase II-Time 2)**

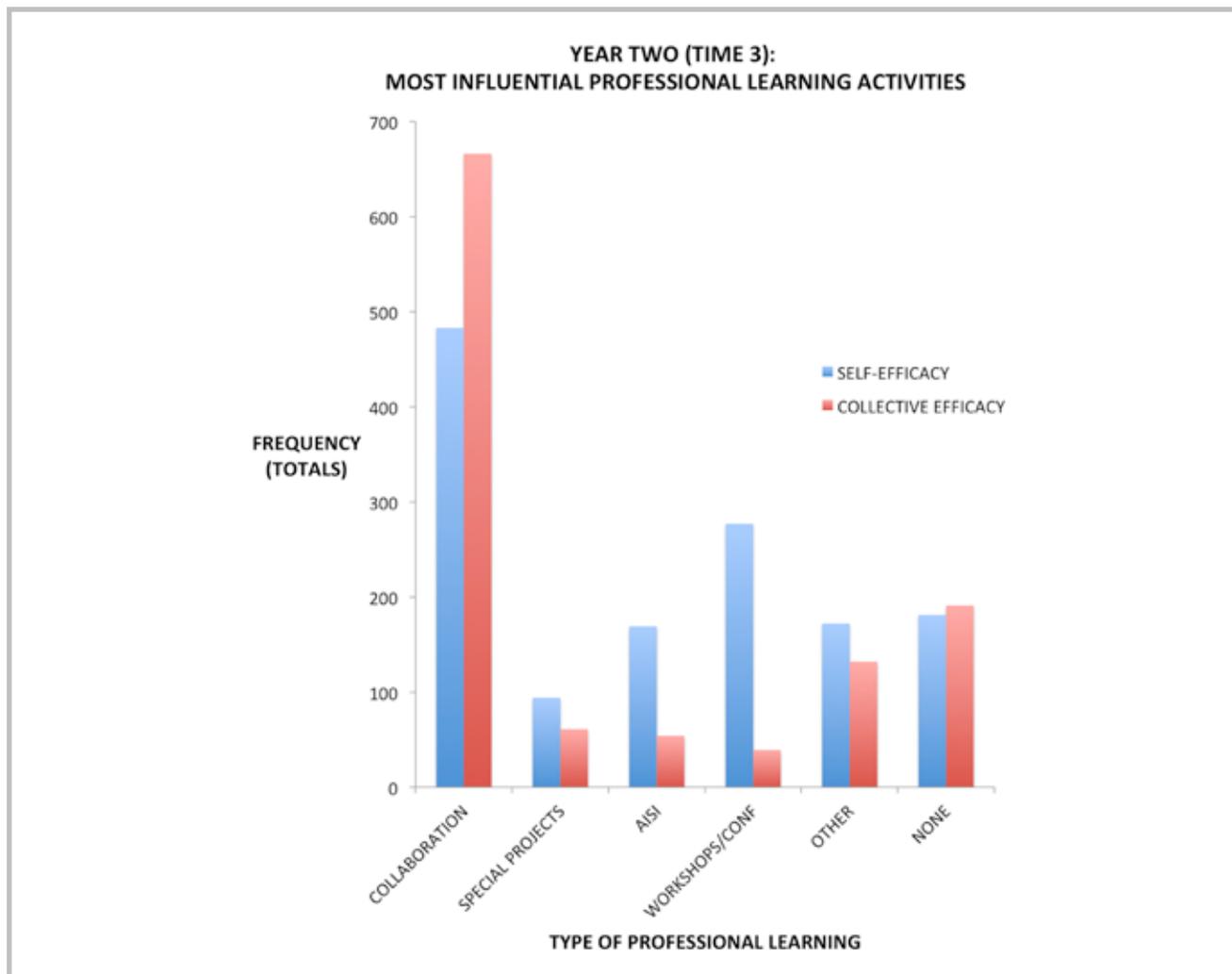
*Year Two (Phase II)*. Through the January and June 2013 questionnaires (*Time 3 and Time 4*), *Phase II* researchers asked teachers to first provide personal ratings of self- and collective efficacy and then to provide ratings in relation to professional learning experiences. As in *Year One*, teachers rated self- and collective efficacy moderately high, with those in mid-career reporting the highest self-efficacy.

Analyses also revealed efficacy levels (both self- and collective) at an earlier time were significant predictors of efficacy reported later. Teachers rated the influence of *refined* categories of professional learning (see Appendix B) and consistently reported *collaboration with other teachers* as the most influential category of professional learning on efficacy (at both *Time 3* and *Time 4*). For example, Figure 8 visually represents results from *Time 3* and

reveals *collaboration with other teachers* as the most influential professional learning experience on both self- and collective efficacy (with collective efficacy reportedly influenced more than self-efficacy).

## 4.2 What were teachers' perceived learning goals in their professional learning?

*Year One (Phase I)*. Teachers provided several comments pertaining to their *preferred focus of PD or collaboration*. As a result, we did a separate analysis of *Time 2: Section Three* and report the findings below. Perhaps as an outcome of the language used in our focus group questions (ie, asking teachers what *they* most need from their professional



**Figure 8 Influential categories of professional learning (Year Two: Phase II–Time 3)**

learning experiences as opposed to asking them what they feel most benefits their students directly), there was some division among respondents as to the intended focus of professional learning, revealing the following general patterns:

- **Focus on teachers' needs/teacher learning** (89.3 per cent): There was strong preference for focusing on what teachers need to become better teachers, to develop their classroom resources, and get support for their specific issues (subjects, classroom management, special needs, technology skills or resources), and this included learning instructional strategies so that they may better meet the diverse needs of all their students.
- **Focus on students' needs/student learning** (21.4 per cent): Some schools used a "filtering question" to determine whether their collaboration or professional learning was approved, such as "How does this benefit the student? How does this professional learning directly enhance student learning?" Ironically, although teachers spoke about connecting their work to student learning, our findings suggest that *better teaching strategies (instruction)* was more frequently articulated as the focus of professional learning, more so than *student learning*. In fact, 11 per cent of 435 comments from the focus group mentioned students. It is unclear what this finding means. Is it a given that if teachers feel better informed about what they are doing or teaching, students will benefit? Perhaps the message that everything a teacher learns needs to be for the benefit of students is so deeply ingrained in teachers' work that they did not mention it.
- **Focus on getting to know students—sharing information on students** (14.3 per cent): Some teachers discussed scheduled collaboration as an effective way of sharing insight and information on the students for more comprehensive or cohesive support for the students and teachers.

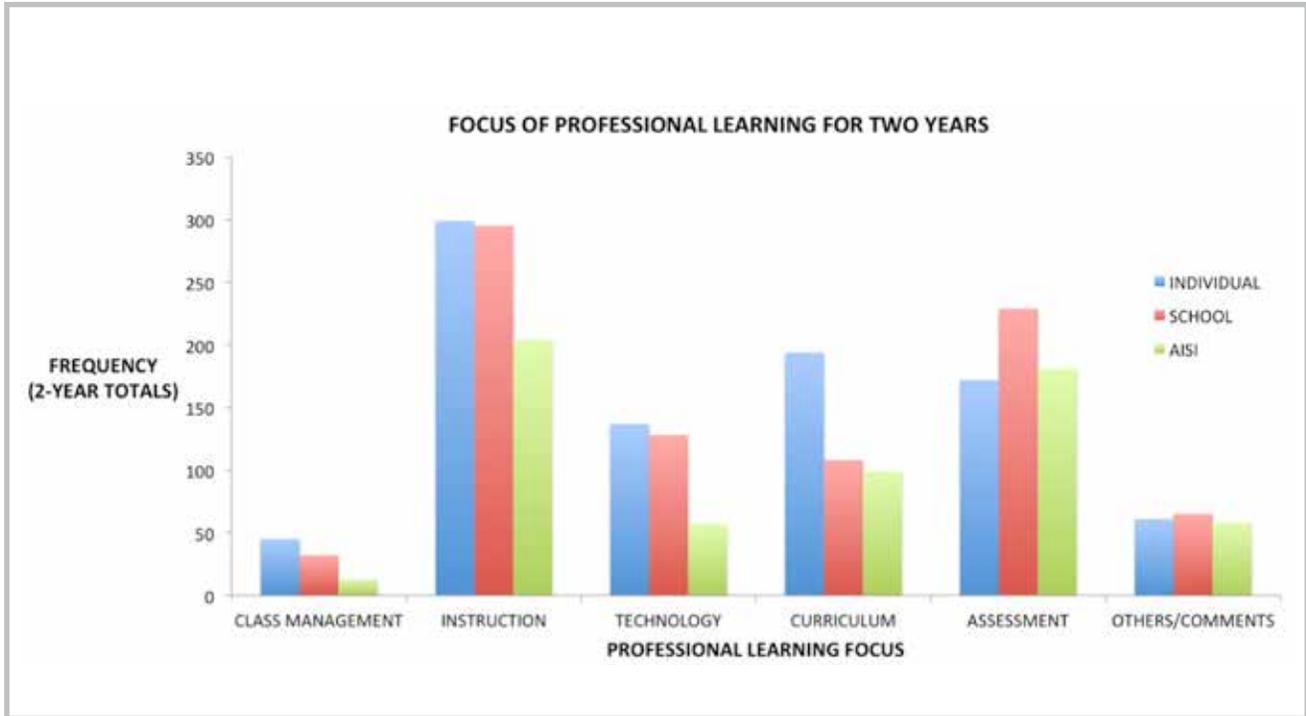
To infer what was meant through the above three categories, we reviewed the data while asking, "What do teachers want to do or learn in their professional learning and collaborative activities?" An

analysis completed during *Phase I (Time 2)* revealed a more specific listing of main focus areas for professional learning:

1. Share curriculum ideas and best teaching practices for their particular subject areas (75 per cent)
2. Co-create and share learning and teaching resources/materials (64.3 per cent)
3. Learn *new teaching strategies* from peers and experts (64.3 per cent)
4. Discuss and plan *how* to implement new learning theory (*Differentiated Instruction, 21 Century Learning*) (39.3 per cent)
5. Share information on students' needs, challenges and discuss solutions (39.3 per cent)
6. Enhance specialized knowledge (sciences, math, etc.) (32.1 per cent)
7. Get affirmation that they are assessing and evaluating correctly (25 per cent)
8. Dialogue, explore and reflect on teaching and learning without products or tangible expectations (25 per cent)
9. Define and/or develop common standards of practice (school-wide) (14.3 per cent)
10. Plan for transitions—plan for the year (10.7 per cent)

Participating teachers were also asked (via *Phase II* questionnaires) to indicate the professional learning focus of their personal (*My individual professional growth plan for the current year is focused on...*), schoolwide (*This year our school is focused on...*), and AISI (*If you have been involved in an AISI project this year, what has been the focus?*) activities. Overall, teachers in this study commonly reported a professional focus on *instructional strategies*. As displayed by Figure 9, instructional strategies were a major focus of teachers' individual professional growth plans, while assessment was the major focus at the school level.

In *Phase I (Time 2: Section Two)*, we asked teachers to rank order what they valued most about professional learning. With 1 being MOST valued and 7 being LEAST valued, teachers rated "learning



**Figure 9 Teachers’ professional learning focus during two-year project (Phase II)**

Rank Order	Phase I: Preliminary	Phase I: Final Results	Phase II: Time 3	Phase II: Time 4
#1 most	Teach effectively	Teach effectively	Teach effectively	Time and space
#2	Community	Community	Community	Teach effectively
#3	Children	Subject area	Time and space	Community
#4	Subject area	Children	Subject area	Subject area
#5	Mentor	Mentor	Children	Teacher strengths
#6	Time and space	Time and space	Teacher strengths	Children
#7 least	Teacher strengths	Teacher strengths	Mentor	Mentor

**Table 6. Teachers’ rank order results: Reasons for professional learning**

more about how to teach more effectively” as the most valued reason for professional learning. In Year Two (*Phase II: Time 3*), we presented the *Phase I* ranking results (via questionnaire) and asked teachers to indicate: a) whether or not they agree with the rank order and b) if anything was missing (see Appendix for a selection from our questionnaire). Teachers were then asked (via questionnaire) to rate the level of importance for each of the top seven reasons (see Table 6 for *Phase I* and *Phase II* ranked results).

Of the 183 teachers who responded to this questionnaire section, 86 (47 per cent) agreed with the ranking as presented, 46 agreed but suggested some changes (25.1 per cent), while 51 (28 per cent) disagreed (or suggested major changes). The suggestions teachers provided were primarily focused on the extremes (1 = *effective teaching*, 2 = *building a learning community with colleagues*, 6 = *time and space to think*, and 7 = *strengths as a teacher*). For example, several suggestions revolved around 1 and 2 (eg, *should be switched, are interrelated, they overlap, occur concurrently*) and indications that reason number 7 was ranked too low. *Time and space to think* was considered particularly important with suggestions that it was ranked too low as well. When asked what was missing, teachers’ top responses included leadership development, mandatory PD, teacher wellness, upgrading and technology. Overall, teachers who participated in *Phase II (Time 3 and 4)* rated *learning more about how to teach more effectively* as the most important personal reason, followed by *time and space to think*.

### 4.3 How did teachers explain their efficacy in relationship to professional learning?

Although many comments (expressed during *Phase I* and *Phase II*) claimed that “professional learning was beneficial” to their practice, in *Phase I*, few teachers explicitly stated that “professional learning has impacted their levels of *efficacy*” per se. However, they indicated *changes* had occurred as a result of professional learning and demonstrated

*how* their levels of efficacy had changed by elaborating on how different forms of professional learning increased their skills or enthusiasm in various areas, from helping them to master specific content to increasing their sense of confidence to try new strategies.

- *Collaboration with other teachers is important as I can gain knowledge from seasoned teachers as well as proven strategies to increase learning in the classroom. By also collaborating with newer, younger teachers, I can be more on the cutting edge of teaching strategies (ie, technology). As well, the boost in enthusiasm can be rewarding!*
- *Collaboration is most effective for me because it allows me the opportunity to ask questions. Also bouncing ideas with someone helps me generate more ideas. I find this helpful and it inspires me to develop better/more interesting activities.*
- *To strengthen knowledge, skills and understanding of concepts in curriculum, I go to teachers teaching similar subjects. But I have found that a lot of other issues—ways students learn, different assessments—have come from working with teachers in different subject areas.*
- *Selected projects are always beneficial and enable us to grow as friends and as educators.*
- *Collaborating with other colleagues really helps me in my job as we get so busy throughout the day and also a bit stagnant sometimes; get some great new ideas or motivators for your classes by collaboration. Keeps me up to date and fresher with engaging activities.*

**Teachers new to the profession** were more likely to report changes in efficacy as a direct result of their professional learning experiences. For example

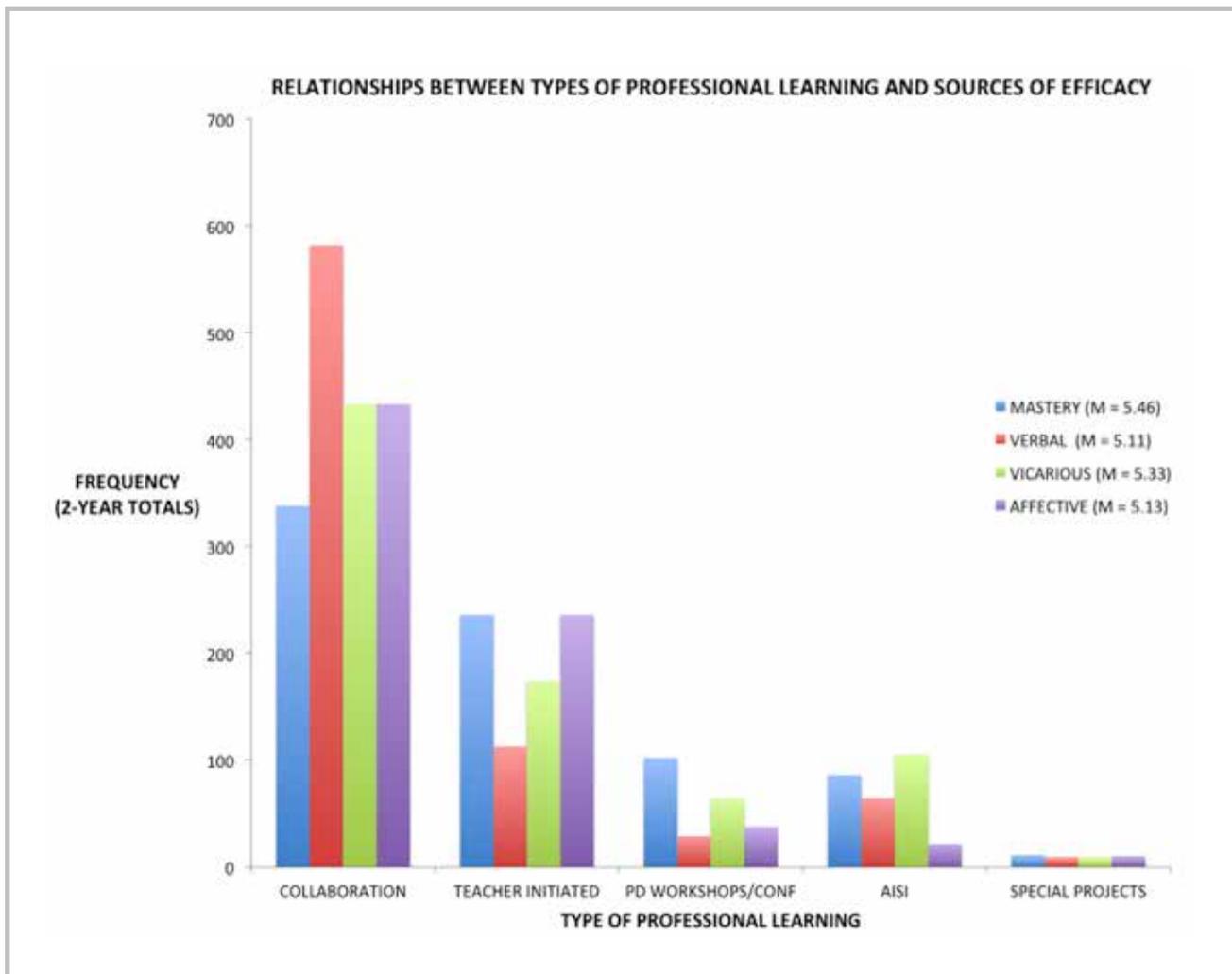
- *As a first year teacher new to the profession, working and learning from other teachers has helped me become successful. I have been able to bounce ideas off them and ask for advice. They have helped me break down the curriculum and come up with better ways to teach given topics. The best professional development that I have learned from is collaboration with other teachers.*

## 4.4 How were the sources of efficacy fostered through professional learning experiences?

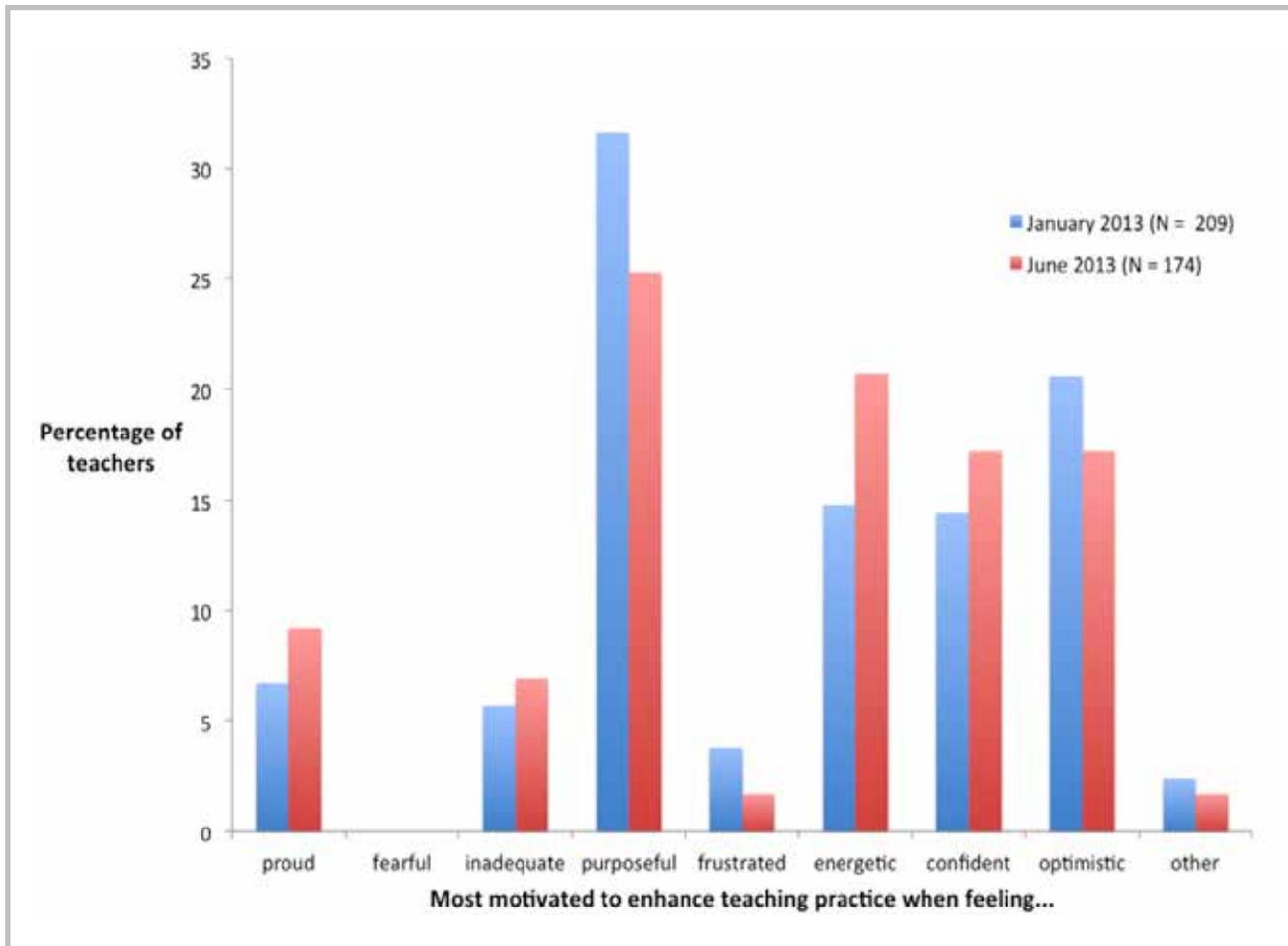
Figure 10 presents professional learning activities as influences on self- and collective efficacy through multiple sources. Verbal persuasion was the highest source of efficacy reported through collaborative activities such as professional service and PLCs. Mastery experiences and affective states were the highest sources of efficacy when professional learning was considered teacher-initiated. Interestingly, vicarious and affective sources were reported equally through collaborative professional

learning activities. When asked about coping strategies (ie, affective source of efficacy) associated with professional learning activities at *Time 4* ( $N = 174$ ), mid-career teachers were more likely ( $F_{2,173} = 3.34, p = .038$ ) to “ask teachers who have had similar experiences for their ideas and experiences.”

*Affective Source of Efficacy:* In Year One, our questionnaires elicited an unexpected number of emotional responses through optional open-ended items aimed at understanding the relationship between professional learning experiences and efficacy. As a result, additional items specific to deepening our understanding of the affective source of efficacy were included. As displayed through Figure 11, teachers were generally motivated to enhance teaching practice when feeling *purposeful*.



**Figure 10 Professional learning activities that nurture the four sources of efficacy**



**Figure 11 Teachers' motivational feelings associated with professional learning**

Leading professional learning was revealed as one way teachers can feel *purposeful*. As mentioned earlier, a number of teachers surveyed (69.5 per cent at *Time 1* and 62 per cent at *Time 4*) indicated leading professional learning activities (within 6 months of the each questionnaire). Teachers mentioned increased reflection and an enhanced understanding of others' perspectives and different needs. Most comments highlighted the benefits of sharing, particularly in relation to boosting efficacy. For example

- *I felt valued for my expertise.*
- *It gave me a tremendous personal boost to realize that even as a new(er) teacher, I have strong ideas to share. Too often, it seems teachers are each drowning in their own personal oceans, and it was at times a small comfort to realize that even veteran teachers can feel this way. When I offered to lead and share, others*

*reciprocated by sharing ideas and resources, and it led to a full-day AISI-sponsored curricular development project at our school.*

- *When they ask to use resources I've created or ask my advice, it really boosts my own confidence. I felt proud to "give back" to so many others during our district PD day. It also motivated me to do research and review in order to better present to others, which was a great refresher.*
- *The greatest gift I received from leading a workshop was the collaborative aspect of the session.*
- *"You get as much as you put in" is a cliché but it is true. When you are involved, you gain much more than when you are a consumer.*
- *I learned just as much, if not more, from the teachers that attended these sessions.*
- *Leading PD always makes me reflect on my own practice and take ownership of the learning I do.*

- *It validates things that I have been doing.*
- *It makes you self-reflect.*
- *Confidence boosted, because until I was asked to lead and presented at PD, I didn't realize I had anything to contribute.*

Of the most common emotions teachers used in Year Two written responses describing feelings associated with participating in professional learning activities, *frustrated* accounted for the most (32.6 per cent), followed by *excited* (26.6 per cent), *inspired* (24.9 per cent), *worried* (9.3 per cent) and *overwhelmed* (6.6 per cent). When asked to select an emotion (from a list of 11 emotions) that could possibly relate to particular professional learning activities, teachers commonly reported feeling *inspired, satisfied or enthusiastic*. “Observing other teachers” was considered a highly positive activity, while being observed or attending conferences were commonly associated with both positive and negative emotions. The top three emotions teachers typically associated with activities relating to various sources of efficacy are listed below:

- After self-reflection, teachers felt **1.satisfied** (2. *enthusiastic*, 3. *inspired*).
- After working with colleagues, teachers felt **1. inspired** (2. *satisfied*, 3. *enthusiastic*).
- After being observed, teachers felt **1.satisfied** (2. *enthusiastic*, 3. *worried*).
- After observing teachers, teachers felt **1.inspired** (2. *satisfied*, 3. *enthusiastic*).
- After leaving a conference, teachers felt **1. inspired** (2. *enthusiastic*, 3. *overwhelmed*).

*Sources and outcomes:* In the focus group conversations (*Phase I*), teachers offered insights into what professional learning outcomes (improvements) they sought, or what they gained or hoped to gain, by participating in particular activities. These professional learning outcomes have been further sorted into the following themes with correlating sources of efficacy suggested in parentheses:

**Process** (via *mastery* and *vicarious* sources)—receive help that makes teaching more efficient.

- To save time and energy
- To codevelop an accessible shared bank of resources, units and assessments
- To co-create and align curriculum content—cross grade/division/subject (together, instead of trying to figure it out alone)

**Content** (via *mastery, vicarious* and *affective* sources)—learn content knowledge

- To learn new classroom management techniques/pedagogical strategies (differentiated instruction, coaching, problem-based learning)
- To learn or deepen subject area/content by working with experts or studying/attending workshops
- To learn new specific skills—technology how-to (eg, how to use technology in class or how to work with autistic students)
- To learn more about/collaborate (ie, team teaching) on specialized support strategies (ie, students at risk)

**Connection** (via *verbal, affective* and *vicarious* sources)—feel safe and reassured

- To feel connected to other teachers (less isolated)
- To get encouragement and affective support (feel safe)
- To be reassured and receive affirmation that they are doing “things” correctly (*assessment* and *technology* were two key items)
- To feel that they are valued and have a sense of belonging to a positive culture (family/team) in the schools

# Chapter Five

## Discussion

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The main purpose of this chapter is to show how the study's findings match the conclusions we draw. Here we attempt to contextualize the research and generalize its findings from the narrow, specific focus to a more general view of the research.

### 5.1 Teacher Efficacy and Collaboration

Overall, this project supports the call for teacher efficacy research to move from theory to practice. Researchers have paid considerably more attention to teachers' self-efficacy over collective efficacy. In fact, Klassen et al (2011) revealed no studies exploring teachers' collective beliefs over time and almost no research examining how collective efficacy beliefs are formed in school settings. Although much professional learning is geared towards the up-skilling of individual teachers, our research found that successful professional learning builds a collaborative culture that fosters collective efficacy. Understanding the importance of collective efficacy is essential when planning for professional learning, since a more collaborative professional practice improves student learning (Hargreaves and Fullan 2012). Yet enhancing collective efficacy through professional learning remains a challenge as teachers commonly express feelings of isolation, despite working within rich and interactive social contexts. Many teachers considered the efficacy source of verbal persuasion—such as feedback exchanged within a collaborative partnership—as a powerful influence on collective efficacy and one that emerges from the relationship between professional learning and school climate (OECD 2013).

Collaboration was a powerful theme running through the participating teachers' responses—accounting for the greatest influence on self-efficacy, collective efficacy and an important component in all four sources of efficacy. According to Hargreaves and Fullan (2012), "good teaching is a collective accomplishment and responsibility" (p 14) and "a more collaborative and collegial profession improves student learning and achievement" (preface). The importance of collaboration specific to teachers' professional learning continues to draw attention in contemporary research (eg, American Sociological Association 2013), providing further support for the importance of our study and research findings.

One theme that emerged from the research was that teacher efficacy was fostered by professional learning that allows teachers time to meet and talk, and spaces that promote conversation and collaboration. Principals are key to making this happen in schools and a principal's work must support collaboration (Parsons and Beauchamp 2011). This work includes building clear cultural norms that help develop teaching and learning cultures and finding times for collaborative teacher professional learning in the school's schedule. Our research (Parsons and Beauchamp 2011) found the following characteristics act to promote collaborative teacher professional learning.

- Teachers must have strong communication structures. Although principals help create these structures, teachers must engage them.
- Teachers must feel empowered to act upon their beliefs. Teachers who hold positive attitudes and

motivational beliefs (ie, efficacy) toward school, students and reform engage in continuous collective inquiry and avoid cynicism.

Teachers who focus on improvement as they work together share a sense of purpose, engage in collegial relationships and share in school-based decision-making.

Caring relationships between students, teachers, staff and parents must be promoted. However, teachers and principals do not carry the burden for teacher professional learning alone. Students must actively embrace the community. Students are engaged best through “conversational pedagogies,” which include assessment for learning, problem-based pedagogy, etc. (Parsons 2012).

- Teachers increase their own professional learning by collaborating in action research and school improvement. Professional learning best occurs when teachers are (1) collaborative; (2) focused on teachers supporting their own learning; (3) sustaining relationships; (4) engaged in decentralized and distributed leadership; and (5) involved in ongoing inquiry and reflection about curriculum, pedagogy, school climate, politics, community, etc. (Parsons and Beauchamp 2011).

Collaborative professional learning should begin with teachers’ self-identified needs. As teachers share their needs and formulate ideas with colleagues about how these needs might be addressed, they come to own their own teaching and learning. They begin to advance ideas about how to benefit their students and communities. As Jalongo (1991) long ago told us, teachers institute collaborative teacher professional learning by developing mutual trust and respect, engaging ideas and values, assuming responsibility for their own actions, freely exploring alternatives, creating and innovating; and teachers learn by interacting with colleagues.

Collaborative professional learning is not complex in practice or philosophy but is both harder and easier than it appears. There is little novel about good collaborative teacher professional learning. But does collaborative teacher professional

learning always work? No (DuFour 2004). Fullan (2001) offers reasons why it won’t: teacher and administration overload, teacher isolation, group think, narrow perceptions of teachers’ roles, a lack of vision and an understandably cynical history of failed or constantly morphing reforms. As a result, there are barriers such as individual and school resistance to change, impatience that focuses on immediate results rather than engaging in process, top-down initiatives, all of which undermine teacher ownership, and a lack of time and money. For teachers, collaborative professional learning can be easy because as soon as teachers commit, it works. However, it can also be difficult because the hegemony of teaching isolation breeds cynicism easier than collaboration. Furthermore, without good models for engaging collaborative professional learning, few recipes exist. The “sit-down, shut-up, write-notes” professional metaphor is alien to collaborative teacher professional learning. We recommend encouraging collaborative professional learning using collectively defined school goals to create shared vision. Schools can merge collaborative professional learning with traditional professional development while creating space where teachers converse openly about their work. Permutations exist within and across schools, districts, grade levels and subject areas. Overall, collaborative professional learning must be ongoing and transparent as it quietly works to further professionalize teachers.

Teacher collaboration builds on the hope that teaching and learning can improve and that teachers can become agents of that improvement. As Sergiovanni (2004) notes, placing hope at the core of collaborative professional learning provides encouragement, promotes clear thinking and informed action, and gives teachers insight to promote learning and solve educational problems. The test of collaborative professional learning is not collegiality per se; it is how collaborative relationships advance student and teacher learning. Perhaps the biggest success of collaborative teacher professional learning is changed school cultures (also Parsons & Beauchamp 2011); and the biggest cultural change is eradicating teacher isolation. Collaborative teacher professional learning

means teachers are no longer lonely, but it also means teachers give up autonomy, a fear only relationships can overcome.

Mentoring is one form of collaborative professional learning that is highlighted in the research (eg, Minneapolis Public Schools 2011) through three rationales:

- Because teaching is complex, it often takes years to learn to teach knowledgeably and skillfully. Mentoring can support teachers through the early months and years of practice.
- Mentors assume roles of protective companions for new teachers, who are often placed with difficult students, subjects and environments.
- A mentor helps new teachers develop 21st century teaching skills for students needing 21st century learning and knowledge.

For more advanced teachers, mentoring can encourage new learning, exploring, applying and analyzing the effectiveness of new models for teaching and learning and is often reported as effectively re-engaging teachers in learning and teaching. Required competencies and areas for growth can also be addressed through peer coaching that includes reflection, using student data to create appropriate lessons, attending to classroom organization and management and exploring aspects of the curriculum and how to teach new material.

Best practice in mentoring takes the form of specific differentiation of guided practice and assistance to teachers in a job-embedded context, based on a thorough assessment of the teacher's strengths and needs. The goal is to help teachers engage in effective practices that encourage growth in student learning. The need for mentoring varies as a function of a teacher's background, experience and knowledge. Mentors may be assigned to teachers who have decades of experience in one subject area, but who are now teaching a new curriculum or a new course, or who are implementing a new pedagogical approach. Regardless of experience, background or education or skills, research consistently confirms that mentors help teachers master basic

competencies, deepen their understanding of teaching and learning, use curriculum resources efficiently and employ effective instructional strategies.

Instructional coaches create another form of collaboration. The primary purpose of an instructional coach is to help teachers deepen their understanding of content, engage in research-informed learning, practice new instructional strategies and gain facility with assessments that monitor student learning. Instructional coaching helps teachers build capacity for effective instructional practices within content areas. Recent research (eg, Wei, Darling-Hammond and Adamson 2010) reported a positive impact on student achievement when literacy coaching was effectively implemented. This is evidenced in the focus group data as well. The report noted that, when literacy coaches receive rigorous training in theory and content of literacy learning and provide extensive school-based professional learning and individual coaching, there is a positive effect on student learning. Coaching models should be school-based, sustained over time and part of a coherent school reform model (Wei et al 2010). The success of coaching programs depends upon making smart choices about how coaches are used. Coaches can fulfill many roles, and it is important to clarify what is expected of a coach. Coaches can become: (1) resource providers, (2) action research mentors, (3) instructional specialists, (4) curriculum specialists, (5) pedagogy supporters, (6) learning facilitators, (7) mentors, (8) change agents and (9) teachers of new skills and knowledge.

A collaborative climate was also reportedly fostered through Professional Learning Communities (PLCs) and other collaborative learning groups focused on curricular or instructional change. In addition to the emerging research about coaching as an effective professional learning model, Wei et al (2010) cited empirical evidence of the effectiveness of PLCs with regard to increasing student achievement. Teaching knowledge is shaped and new skills implemented as teachers plan units of instruction together, examine student work to find ways to improve it, observe each other teach, consider instructional or

curricular changes and plan improvements based on various cocollected data. The effectiveness of this slightly more formal and focused level of collaboration can work in teams, departments and grade-level compositions of teacher collaborations. The following key suggestions can help ensure that these collaborative teams work:

- Encouraging teachers to make data-informed decisions improves their work. Allowing teachers to control the data they use to assess which students are succeeding or struggling helps inform professional decisions and progress and pedagogy. Such data includes student work, standardized assessments, formative assessments and teachers' insights. Collectively measuring what matters helps teachers know when they are making a difference in student learning. Such decisions are not one-offs. Teachers must continually converse about students' learning as a way to inform practice. Beginning by examining present conditions, then continually conversing together about student learning with judgment, but without blame, helps plan the work of school-based professional learning teams.
- Focusing on instruction is a key for improving student learning. An emerging research consensus suggests that professional development has high impact when it focuses directly on instructional content and materials. One solid approach asks teachers who are building and working with the same curriculum to work collaboratively to study what is working and what needs adjustment based on a variety of data derived from student work. Discussion should focus on instruction that works.
- Follow-up for instructional changes decided on in professional learning teams is critical. Shared practice involves corporately reviewing teacher actions and includes feedback and assistance to support individual and community improvement. Shared practice can be accomplished by building conversational communities where colleagues are not geographically tethered to individual classrooms and can move freely to observe each other working on specific practices. Follow-up

includes collegial, participant consideration about new learning, application and potential ways to improve teaching and learning, and to better assess the impact of teaching upon student learning.

Collaboration was an especially powerful tool contributing to teachers' collective efficacy, and our report underscores the importance of building a sense of collective efficacy through whole-school collaborative activities. Our findings of mid-career teachers' high efficacy corroborate previous research (eg, Klassen and Chiu 2010, 2011) and provide support for Hargreaves and Fullan's (2012) call for a systemic focus on capable and committed "dream teachers" of midcareer. Like Hargreaves and Fullan, we recommend a focus on the professional capital of midcareer teachers (ie, help support and sustain their professional development) since the extremes (novice and late-career) will also benefit from sustainable momentum in the midcareer years.

Efficacy is not only impacted across teachers' careers, but there is growing evidence that teachers experience—both individually and collectively—a decrease in efficacy at certain times of the year. Day and Gu (2010) in their book *The New Lives of Teachers* refer to these high and low points in a teachers' year as "peaks and troughs" (p 52). A current study being conducted by the Alberta Teachers' Association took Day and Gu's methods to look at the highs and lows in a single year. These periods of waning efficacy and increased workload are consistently higher between January and June, with the lowest points being near the end of the school year. It is quite evident that this phenomenon has had some impact on our results, as we did see a decline between January and June data collection points, but also in the number of participants completing surveys and the tone of their comments or the shift in their priorities. For example, the issue of "needing time" for professional learning rose considerably throughout the year (see Table 6).

Engaging teachers in teams that work together over time was reported to improve teaching and learning—support for previously cited research

(OECD 2013). Trust among all professionals is important for collaboration. Collaborative groups work best when autonomy and accountability work together. We have found that teachers who feel they are part of a team focused on making meaningful changes work well together. That said, over 25 per cent of teachers (in focus groups) noted that forced collaboration does not work.

Although the majority of collaboration-related comments made by teachers (on *Phase II* questionnaires) were indicative of positive influence (as evident in our results section), some noted ineffective collaboration: *Unfortunately, in our school it is every person for themselves. Collaboration is not done efficiently or effectively and has not been led to be that way the past 5 years I have been in the school. It is an area sadly lacking in a small rural school.* This comment highlights the long-standing issue of teacher isolation.

Dan Lortie's seminal *Schoolteacher* (1975) described teacher isolation as a crucial, structural roadblock to improving student learning in American (and we believe Canadian) schools. Lortie wrote that, for almost 200 years, teachers had worked alone and behind closed doors, seldom collaborating with colleagues about how their work might improve student learning. Teachers, Lortie noted, spent their days in isolation, working as single cells, construing their work as self-sufficient and, we might add, heroic. If we are correct, such "heroic" teacher self-identifications fit Joseph Campbell's (1973) *monomythical* hero's journey, which we sometimes believe has become a pattern of teachers' self-narratives. In Campbell's theorizing, the hero ventures forth to engage difficult forces towards seeking decisive victory. We believe such culturally embedded isolation has a huge impact on teacher culture, even past its debilitating effect on preventing student learning because professionals do not work together to share their craft knowledge. Lortie (1975, 61) explicates a concept he calls "apprenticeship by observation," which suggests that any young person who sits in classrooms from K–12 has already been enculturated into the world of teaching. Should they wish to become teachers themselves, they

carry this culture into their professional practice, creating a cycle of isolation from which it is difficult to build professional communities of practice.

A decade later, Goodlad's (1983) powerful study of schooling discovered that in most schools, teachers working in isolation were not encouraged to discuss curriculum and were even discouraged from discussing it. Tye and Tye (1984) also found that teachers lacked connections and often worked in self-contained environments. Obviously, teachers who work in isolation cannot take advantage of potential collaborative support they might receive from other professionals. Stacy (2013) theorized that teachers sometimes feel they will lose their autonomy if they collaborate with other teachers to create common lessons and assessments and selfishly do not want other teachers to use "their stuff." Such a proprietary culture, she believes, creates competition, which weakens the professional collective voice teachers might have.

Furthermore, because collaboration is not part of teaching culture and is new to teachers, we believe teachers have not developed a collaboration-related language. In addition, because collaboration represents change which might be seen to disrupt both teachers' regular practice and culture, it might become a challenge for school leaders to manage or encourage collaboration. Thus, in our study, even though the majority of teachers believe working with colleagues represents their best professional learning, they resist what they might see as "forced" collaboration. We see these probable ironies as representative of being new to engaging collaboration across schools and school divisions. In other words, we all believe collaboration is helpful and important but are not yet sure how to engage in it practically.

Our discussion here potentially addresses what we saw as data differences between Year One *Phase I* and *Phase II* results. Thus our data collection was more than simple data collection; it impacted and was an occasion and a site for increasing teacher thinking and learning. By Year Two, because we engaged our study's participants in discussions that emphasized and built upon their ideas about the

importance of teacher collaboration, our research became a part of these teachers' professional learning. Because our research responded to what we were detecting in the data, we also came to use our teachers' language/labels instead of deferring to Joyce and Calhoun's (2010) labels. This "action research" part of our study might have indeed impacted how our teacher participants came to understand their own work more deeply. Further research that studies the change in teachers' language around collaboration might hold important possibilities to explore how teaching language and culture changes. Similar to those who have theorized about the links between language and culture (Claude Levi-Strauss 1966; McLuhan 1967; Ong 1982), we see language and culture as inexorably linked.

## 5.2 Essential Conditions

In addition to an unwavering commitment to student learning consistently expressed and referenced in teachers' work, our participants highlighted several characteristics that help professional learning groups gain success. Our study found correlations between key components of effective collaboration revealed through our analyses and the seven key components itemized in *A Guide to Support Implementation: Essential Conditions* (Alberta's Education Partners 2010): *shared understandings, shared leadership, research and evidence, teacher professional growth, time and community engagement*.

Principals are charged with the task of **sharing leadership** to build trust and community while creating environments of conversation about what teaching and learning requires, and how the school community can know students are learning. **Community engagement** through team building, although valued more by some than others, is a key to building successful collaborative cultures within schools. Some teachers reported that they value team-building activities to get to know each other or to bring new teachers into the school. Relationship development, community building and faith days (an element of Catholic schools) were reported as valuable and important ways to

establish the trust and rapport required for teachers to learn how to collaborate and work together on more focused or formal projects. But we need to ensure teachers also have informal opportunities to communicate and create **shared understandings** about their ongoing work, ideas, struggles and learning successes. For example, descriptions of why professional learning was important included comments from teachers who wanted to ensure they "*were on the right track...same track as others...same page...all had the same info...are all speaking same language... stayed in the loop.*" Shared understandings can help make schools smarter, more collegial and more accountable.

Similarly, in their summary of six years of AISI supported collaborative work, Parsons, McRae and Taylor (2006) also learned that focusing on action research has been a powerful influence on teachers' efficacy because it focuses upon three teacher motivators: community (working together), agency (believing that one can make a difference in student learning), and service (knowing that the work improves students' and other teachers' lives). Teachers who engage in action research (starting with a problem and working together to solve that problem) take charge of situations that encourage growth. Action research also provides continual, accountable and professional work towards shared goals. Through this study's focus group descriptions of special projects we learned that a **research and evidence-based approach** served schools and teachers well.

The concept of needing **time** or having and valuing "dedicated time to collaborate" became more prevalent over the span of the two-year study. This is a difficult factor to measure in isolation as it was embedded or alluded to in so many of the comments on other professional learning models. Time emerging as a prevalent theme was not surprising, given that *time and space to think* was indicated as a considerably more important reason (via questionnaires) for Year Two teachers than what was originally proposed by Year One teachers. Perhaps the discussions that took place through focus groups emphasized the greater importance of time in a teacher's professional learning growth plan.

Our findings affirm that “[t]eacher knowledge, skills and attributes are enhanced through ongoing professional learning” (Alberta’s Education Partners 2010, p 7), particularly when professional learning is teacher-initiated and aligned with a larger shared vision of enhancing student learning. Throughout the thousands of responses to questionnaires, surveys and focus group inquiries over the two-year study, it was made absolutely clear that teachers seek and value multiple forms of professional growth. Overall, instructional strategies were the most commonly cited focus of **teachers’ professional growth** plans (during *Phase II*), so it wasn’t surprising when they also reported that *learning more about how to teach more effectively* was the most important reason for professional learning.

### 5.3 Models of Professional Learning

Joyce and Calhoun (2010) provided a framework for us to better understand teachers’ professional learning using five models: models that support individuals, collaborative personal/professional direct service models, collaborative and cooperative models, models designed to achieve curricular and instructional change, and traditional workshop models. They also considered *traditional professional development* as only one component of professional learning and stated that any comprehensive system should include a wide range of opportunities and resources to help teachers grow. Suggested opportunities included individual inquiry, action research, collaborative learning teams, professional learning communities, curriculum and instructional initiatives, workshops with quality training elements, mentoring, coaching programs and access to data collection and analysis tools.

In this report, we noted a number of strong correlations between themes found in the data and those outlined by Joyce and Calhoun (2010). For example, often individual teachers commented that a combination of three or more types of professional learning was ideal, and that teachers needed to be able to pick and choose their strategies

depending on their current learning goals or needs, their years of teaching experience, and their learning styles or preferences. One area that was not specifically covered by Joyce and Calhoun but that was strongly evident in the focus group findings was the collaborative work of sharing resources and developing inventories of test banks, learning materials, resources or units in various subjects. This was one of the most valued forms of collaborative professional learning and an important purpose for collaborating with peers. We placed this type of cooperative “sharing the load” work under Joyce and Calhoun’s “collaborative and cooperative models.”

Based on our findings, we propose three personal/professional goal areas for teachers and for schools to consider: *process*, *content* and *connection*. This set of three is similar to the findings from the student engagement work of Willms, Friesen and Milton (2009), where students were found to be engaged in one aspect of learning (eg, socially) but not thriving in another, leading researchers to re-examine what is actually meant by *engagement*. Similarly, teachers may be experiencing confidence in teaching their subject area (content) but feeling alienated or disconnected from their colleagues or the school’s larger initiatives (connection). The data suggests that perhaps a balance of all three is essential to developing a teacher’s sense of self- and collective efficacy.

Teacher engagement is multi-faceted, with dimensions of cognitive, emotional and social engagement salient to teachers’ overall feelings of being fully engaged in schools. Two core dimensions, energy and involvement, characterize engagement for teachers, but the level of engagement may vary by dimension. For example, teachers may feel cognitively and emotionally engaged with their students, but less engaged socially with colleagues. A recent validation study of a new engagement scale found that teachers’ social engagement could be reliably split into colleague and student factors (Klassen, Yerdelen and Durksen 2013), with both related to overall teacher engagement and both associated with higher levels of self-efficacy. The findings from this

study suggest that engagement with colleagues, that is collaboration, is a key factor influencing collective efficacy in schools.

Our findings suggest there are, in fact, different types and/or levels of engagement and efficacy among teachers when it comes to professional learning. Could a teacher be strong and confident in one and not another? Are these levels mutually exclusive, or must all be present for job success and satisfaction? As we reviewed the categories of professional learning and the teachers' wording of what they wrote, we had the sense that teachers see professional learning as something they "get" rather than something they could and should contribute. Specifically, there is a sense that teachers "get stuff" from professional learning but the teachers in our study who had experienced leading professional learning recognized the learning and growth that comes from giving, sharing or contributing to others' professional learning through various forms. Nonetheless, there remains an "I go to get stuff" mentality. Future research would benefit from including the act of leading professional learning as an invaluable activity that can promote teachers' professional growth.

## 5.4 Practical Implications

Drawing conclusions and implications is an important part of any research report. Although the data was rich and diverse in this research, some core conclusions and implications consistently surfaced. We will attempt to make sense of what our findings suggest in terms of applications for practice. As Parsons and Beauchamp (2011) have noted, applied research addresses questions of (1) *What?* (2) *So what?* and (3) *Now what?* In this section, we will attempt to address these last two questions. As researchers, we attempt to inform readers about how our findings reflect teachers' perspectives on professional learning and efficacy. In this section, we highlight a number of key findings that emerged from our research and draw attention to the patterns which might inform future practice.

When considering the practical implications of teacher professional learning and teacher efficacy

for schools, we believe Alberta's school leaders have the ability to promote structures and processes in the professional growth of teachers and are capable of developing and nurturing teachers' self- and collective efficacy (Woolfolk Hoy 2012). In fact, our research suggests that these two activities, (1) teachers increasing their own or their collective professional learning and (2) teachers' growth in personal and collective efficacy, go hand-in-hand. For example, Parsons (2013) found that conducting action research encouraged several aspects of growth in teacher efficacy (increased confidence and courage, changed and expanded self-definitions, improved literacy and the ability to see and engage school-based research opportunities). In addition, McDonald (as cited in Woolfolk Hoy 2012, 99–100) encourages school administrators and leadership teams to reflect on a number of questions, such as:

- Are we really aware of the link between teacher efficacy and student learning?
- What feedback are teachers given about their competence in the classroom and within the school teaching staff?
- Do teachers in your school engage in informal professional conversations about their own learning, their teaching success and failures, their own sense of their ability to encourage students to learn and shine?
- When teachers gather for meetings, are they opportunities to learn, or are they sessions for administration? When schools provide opportunities for teachers to learn, reflect and share, teacher efficacy is enhanced.

Likewise, teachers may reflect on questions like: Am I aware of the link between teacher efficacy and student learning?

- What steps do I take to share my learning with other teachers?
- What steps do I take to put new skills and learning into action in my classroom?
- What feedback am I given about my own competence?

Collaboration was an overarching theme throughout our study. If we can collectively—perhaps collaboratively—address and answer these questions, we can go a long way as a community of practice to professionalize our own learning and our abilities to promote student learning, which we believe should be the goal of both teachers’ collaborative work and our own work as researchers. Teachers believed their best professional learning was gained through collaboration with colleagues. As well, they believed collaborative professional learning models had the most impact on their own (as teachers) self- and collective efficacy. Teachers supported collaboration as a form of professional learning but did not express appreciation for what they called “forced collaboration.” Because teachers told us that indeed, one size does not fit all, we conclude that some form of “choice” should be provided for the professional collaborations teachers engage in or are attending. A key factor is ensuring that professional learning events are meeting the needs of the teachers and their students, and we can only know this by asking the teachers themselves.

Our findings “animated” the previous work of Joyce and Calhoun. It put meat on the bones of their theoretical work. There are two ways to consider the changes we suggest in their work and the expansions we have made. First, similar to other research, Joyce and Calhoun’s work was a product of historical context (the time) in which it was undertaken. Ironically, things both change quickly in schools and things change slowly in schools. Joyce and Calhoun’s work was undertaken during a time when collaboration of all sorts was not nearly as established as it is today. Pedagogies of collaboration (what Parsons (2012) calls “conversational pedagogies”) that include assessment for learning and project-based teaching are more established today in classrooms than they were when Joyce and Calhoun began their work. As a result, their work would not have been privy to such increased insights. Second, our assessment of Joyce and Calhoun’s work is that it drew from the literature and not from spending time engaging in the lives of working teachers. Because their work was done at a *distance* from teachers, they produced

a skeleton rather than a living representation of how classroom teachers actually work. Through the voices of teachers, we now have a clearer and fuller picture of their experiences and learning needs. We are able to differentiate between the various types of collaborative professional learning and the different purposes for each.

Teachers in our study noted the power of *relationships* in their work. Positive collegial and collaborative relationships support teachers’ sense of self-efficacy and collective efficacy. Although the development of collegial relationships and collaborations are difficult due to the challenges of time, isolation, workload and differing learning needs or subject areas, our findings show that teachers who felt more connected to their peers (and students) felt more effective in addressing curricular, pedagogical and technological challenges or changes. As noted, the emergence of “conversational pedagogies” (assessment for learning, project-based and problem-based teaching: Parsons 2012) is changing how teachers work and the nature of relationships between teachers and students. No longer are teachers in front of students “teaching”; more frequently we see teachers beside students “guiding” them or, in some cases, “learning with them.” Our work might be on the cutting edge of the curricular and pedagogical changes that would tend to favour such interactive and engaged work—both for students and for teachers.

But what do our findings mean for supporting or changing traditional methods for teachers’ professional learning? What might professional learning look like in the future if we were to take our findings seriously? We propose the following as we embark on this paradigm shift:

- Choice of professional learning activities
- Teachers’ conventions where teachers are brought together to collaborate instead of (or as well as) taking in new theories
- Local and provincial teacher collaborations offered regularly
- Teachers encouraged to engage the “So what?” and “Now what?” questions of implementation

together as opposed to just learning theories and then being left to independently attempt implementation

- Increased encouragement for teachers to see their work within the realm of “action research” and to systematically engage action research processes as a way to engage their own work and to share their work with other teachers, schools and divisions also interested in similar issues

Our findings suggest that various models of professional learning may be more or less relevant depending on a teacher’s professional life phase. Career stage influences the impact of professional learning on efficacy; for example, new teachers were more likely to report increased self- and collective efficacy as a direct result of professional learning. Teachers who have been immersed in the traditional models of more isolated professional development activities for many years have a difficult time learning how to engage their peers. We have no doubt, however, that these same teachers might have immense knowledge and contributions to make to the collective efficacy of their colleagues and their schools once they learn how to collaborate or mentor others. We believe that the language of and for teacher collaboration is only beginning. We also believe that most teachers are primed to engage it. Finally, we believe a new literacy of empowerment for teachers is both possible and likely. We are seeing a paradigm shift in how teachers work.

Two key messages were repeated throughout the findings: *One size does not fit all* and *collaboration is foundational to sourcing the professional learning that may best meet one’s needs*. Our findings suggest that no single model is the best model. A fluidity or blending of models is needed depending on a teacher’s needs, career stage, the nature of the classroom of students, the school subject, the task at hand and many more factors. Although teachers share common goals, our data shows that, for example, elementary teachers have different learning goals than high school teachers. Often high school teachers are considered specialists, while elementary teachers are not; however, it is more accurate to say that the focus of specialization differs at each level. The broader issue is that

developing these cultures of collaboration challenges independent teacher autonomy. Teachers do not yet know how to balance the need for both autonomy and collaboration. Perhaps teachers can benefit from learning more about how to develop collaborative learning cultures before they reach the classrooms

Given what teachers have told us about the foundations of their best professional learning, we offer the following five suggestions about how these insights might be addressed.

### **1. Engage Teachers in Action Research**

Our findings suggest that teachers wish to engage in collaborative activities. We believe these activities lend themselves to being circumscribed generally into an “action research” agenda. Our belief is that the “actions” of action research embody the layers of engagement that inservice teachers have suggested embrace their professional needs and desires because action research is focused on teacher learning; it is collaborative, it is local and it provides professional choice. We suggest encouraging inservice teachers to engage in the site-based, problem-solving activities of action research, where they might experience action research processes, ethics and methods. Such action research experiences can help teachers focus on the kinds of specific and relevant issues they are challenged to address as they work in their own classrooms.

### **2. Engage Teachers in Collaborative Work**

Teachers are working together to explain ideas and trying to agree on a problem’s root causes, determine a plan of action, agree on resources and task responsibilities, inspire colleagues, take learning risks, negotiate different personalities, build peer capacities, and overcome barriers or unforeseen complications. All such collaboration matches the work taking place in successful schools. Much of this work reflects the core beliefs and philosophies of a school’s teachers and its culture. These activities can explicate the processes of translating teaching philosophies

(such as the power of collaboration) into actual classroom activities. Teachers often build pedagogies upon the experiences of their workplace. If we want classrooms to be more collaborative, innovative and creative spaces where student critical thinking and thoughtful reflection are the norm, then teachers must learn to practice collaboratively in creative spaces where innovation, critical thinking and thoughtful reflection *are* the norm, encouraged by school leaders and modeled by peers. Collaborative work should become an expectation.

### 3. Engage Teachers in Real Classroom Issues

Our research found that, as teachers came to share leadership within their own school, they were both able to solve real, site-based issues and concomitantly empower their own agency—ergo, their individual and collective efficacy increased—school leadership broadened; the school population came to share “ownership” of shared space and community building and collaboration ensued. Because we took what teachers told us at face value—that collaboration worked well—we came to believe teachers should spend more time working together to solve real classroom issues and should do this work transparently. For example, we believe it is possible to allow teachers to become part of the school planning, to openly discuss issues about instruction and assessment and to help other teachers discuss issues that matter to them from their perspectives as teachers. We believe schools might become a space where teachers work with peers to think openly about all aspects of teaching, including the goals and assignments of their work. We believe such local school activities will support the sorts of collaboration teachers in our study requested.

### 4. Engage Teachers in Engaging Teams of Diversity

We believe it is possible for teachers to increase their individual skills and interests. For example, the celebration and engagement of diversity

suggests how teachers might increase the effectiveness of collaboration when building on colleagues’ knowledge and skills. Since not all teachers have or need similar skills, teacher collaboration might encourage teachers to be more “at home” with their own unique abilities through opportunities to employ these diverse skills within the classroom. Such diversity might mean allowing differentiated teamwork and, as teachers in our study have suggested, increased choice. As teachers learn to accept and practice their own diverse skills, we believe they gain insight into how to accept their students’ differences. How to engage these issues of diversity can also become part of number 3, where the entire community comes to work together to solve real issues.

### 5. Engage Teachers in Building Culture

Finally, we believe it is possible to create opportunities where teachers actively discuss the kinds of cultures they hope to build in their classrooms and schools and to consider practical ways those cultures might be built. Formal invitations to openly discuss how teachers will relate to their community in an age of social networking would work towards increased collaboration. Our past and present research experience suggests that these activities can and should become explicit choices available to teachers in their work. Such learning can become essential and foundational for a teacher’s career.

During this research, our definition of teacher professional learning evolved. We began this study using five models of professional learning that consisted of a wide variety of formal and informal opportunities for teachers to enhance teaching practice. As we conclude our research, we have come to accept the power of teacher professional learning. While we have not dismissed the long-used phrase *teacher professional development*, we wish to use our research findings to redefine the concept of professional development. Our research suggests that teachers seek more agency and efficacy in their work. They have come to see and accept their own professional learning as a set of

reciprocal forces pushing the locus of control upon teachers as political actors responsible for their own learning and capable of changing teaching practice from the grassroots. Philosophically, teacher professional learning centers on teaching student learning, focuses on using feedback from formative assessment as a way to improve professional learning, deepens teacher “craft knowledge,” and allows teachers to act wisely and creatively within classrooms as needs arise. Finally, a goal of teacher professional learning is shared practice as (a) teachers come to believe they have contextual knowledge and practice that can be shared, and (b) teachers come to communicate among themselves and with students, parents and their widening community.

As we reviewed what the findings of our research might mean in an applied way, one ringing theme was that teachers need ALL types of professional learning to be most effective, and they wish to have choices about types of professional learning they engage with at different stages of their careers. Teachers told us they appreciated professional learning that was timely and relevant to their needs as teachers to prepare to meet the diverse needs of their students while adapting to changing curricular expectations. They strongly desired more professional learning but believed **choice** and multiple, collaborative forms fit their needs. This finding, we believe, could be met following some of the suggestions laid out above.

It appears that teachers would benefit from proactive leadership in the types of professional learning in which they engage and how opportunities materialize. This finding calls for teachers to be more active in the setting out and provision of professional learning activities for their peers and for themselves. We believe teachers should be engaged in the collective setting of their own professional learning. Therefore, we conclude with the following recommendations:

- Provide autonomy and choice to teachers in professional learning activities to boost teaching self-efficacy.
- Explicitly provide time and space for

collaborative professional learning activities to build collective (school-level) efficacy.

- Tailor professional learning to different cohorts (eg, teaching stage). For example, beginning teachers and experienced teachers have different professional learning needs; single-subject–area teachers (eg, second language) desire collaboration with other single-subject–area teachers.
- Invite teachers to collaboratively outline the professional learning they need to become better teachers and work to specifically connect these to instructional strategies that better meet student needs/student learning.
- Build opportunities for professional development/professional learning around sharing curriculum ideas and best practices, co-creating and sharing learning and teaching resources and learning new teaching strategies.

# Glossary

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**Collective efficacy** beliefs reflect teachers' perceptions of school-level attributes, that is, judgments of the capabilities of the staff or school to which they belong. Research has shown that teachers' collective efficacy is related to student achievement and academic climate, even after controlling for prior student achievement and demographic characteristics, such as socioeconomic status.

**Communities of Practice** (eg, professional learning communities) refers to groups of people who share goals, ideas, information, experiences and resources to address common interests. Within schools, we believe teachers form a community whose informal membership, relationships and interactions focus on the shared goal of student learning. Within their community of practice, teachers gain identity and focus; common ways of working, knowledge, and expertise and shared values that include a desire to learn so as to contribute to existing teaching knowledge and practice.

**Sources of teacher efficacy** Bandura (1997) suggests that teacher and collective efficacy are formed through the same sources: enactive experience (prior knowledge and mastery experiences), verbal persuasion (persuasory feedback framed as gains), vicarious experience (competent and coping models) and interpretation of physiological and affective states (source and level of activation). We have begun to investigate the links between different modalities of teachers' professional learning and the formation of self-efficacy.

**Mastery (Enactive) Experiences** Teachers' interpretations of performance successes and failures affect perceived self-efficacy and can influence motivation to engage in professional

development activities. Enactive experiences can serve as indicators of teaching capabilities and are considered the most influential source of efficacy. Therefore, we asked teachers to respond to the item: "*My satisfaction with my teaching performance was influenced the most by...*"

### **Verbal Persuasion**

Teachers who are persuaded verbally that they possess the capabilities to master skills and strategies for overcoming challenges in the classroom are more likely to extend and sustain greater effort than if they dwell on past failures. Since persuasory efficacy information is often expressed through the evaluative feedback given and is more supportive if formed as gains as opposed to shortfalls, we asked teachers to respond to the item: "*The interpersonal (eg, feedback/praise) support I have received was influenced the most by...*"

### **Vicarious Experiences**

Teachers at any career stage may benefit greatly from professional development that involves competent and credible models. Modeling that exhibits effective teaching and coping strategies can boost the efficacy of beginning teachers, but also the efficacy of experienced teachers *if the models teach them even better ways of doing things*. Therefore, we asked teachers to respond to the item: "*My opportunity to reflect upon my own teaching performance with others was influenced the most by...*"

### **Physiological and Affective States**

Acknowledging the role of somatic indicators in teachers' efficacy is important since positive affect can raise efficacy beliefs and increase the likelihood that teachers will choose to engage in more challenging tasks such as new skill or

strategy development through professional learning opportunities. We asked teachers to respond to the item “*The satisfaction with how I coped with teaching stress was influenced the most by...*” since teachers will rely partly on the physiological and emotional information when judging capabilities, especially when coping with day-to-day teaching activities.

*Teacher self-efficacy* is strongly associated with teacher motivation, which in turn influences student outcomes. Self-efficacy refers to individuals’ beliefs about their capabilities to carry out a particular course of action. Our questionnaires included teacher self-efficacy items related to the three commonly measured dimensions: student engagement, instructional strategies and classroom management.



# Appendices

## Appendix A

### Year Two (Phase II) Questionnaire Items (examples)

*Teachers were invited to match each self- and collective efficacy item with a type of professional learning activity they felt influenced their confidence the most.*

Last year we conducted focus groups with over 200 districts in five districts. Teachers reported their teaching practice as being influenced through five types of professional learning activities:

1. Collaboration with other teachers (eg, professional learning communities, mentorship or coaching program, informal collaboration with other teachers)
2. Implementing special projects (eg, informal grade level, subject area or schoolwide focuses like “SMART learning”)
3. AISI (eg, focused and formalized school/district professional learning on a specific topic or theme)
4. Attending workshops or conferences (eg, full- or multi-day convention involving multiple workshops on varied topics)
5. Other (eg, professional reading on own, personal reflection, courses)

*Teachers were also invited to consider the top seven reasons revealed by the Year One focus groups.*

Last year, over 200 teachers participated in focus groups on professional learning across the province. We asked teachers to identify and prioritize seven reasons for their participation in professional learning. These were the results:

- #1 (most important) = learning more about how to teach more effectively;
- #2 = building a learning community (sharing with colleagues and social networking)
- #3 = learning more about children;
- #4 = gaining subject area knowledge;
- #5 = being influenced by a significant person, teacher or mentor;
- #6 = offering me time and space to think; and
- #7 (least important) = learning more about myself (my strengths as a teacher)

Please consider how you value each of these reasons for professional learning and respond to the following two questions.

1. Do you agree with the prioritization? Why or why not?
2. Are there other reasons for your professional learning missing from this list? If yes, what are they?

*Next, teachers were asked to rate how important each of the seven reasons were for their OWN professional learning on a seven-point scale from not at all important to very important.*

## Appendix B

### Categories of Professional Learning

Preliminary: Joyce & Calhoun's Models	Year One: Research Study Models	Year Two: Teachers' Models
Models that support individuals	Personalized learning (online courses/ professional learning, university courses, personal classroom research, reading about instructional strategies, etc)	Other (eg, professional reading on own, reflection courses)
Collaborative personal/ professional direct services models	Professional service: helping or receiving help from others through mentoring and/ or coaching (colleague or student-teacher), classroom observations, shared decision-making teams, etc	Collaboration with other teachers (eg, professional learning communities, mentoring or coaching program, informal collaboration with other teachers)
Collaborative and cooperative models	Professional learning communities: study groups, shared book clubs, open-ended or disciplined action research, etc	
Models for curricular and instructional change	Curricular/Instructional/ AISI initiatives: formal workshops (including those offered by consortia) at your school/ district/ region on a specific topic (eg, school leadership courses, after-school, part- or full-day workshops	AISI (eg, focused and formalized school/ district professional learning on a specific topic or theme)
		Implementing special projects (eg, informal grade level, subject area, or schoolwide focus like "SMART learning")
Traditional workshop models	Conference-like professional development: district, regional or provincial workshops/conferences including those offered by consortia or other professional development providers (eg, full- or multiple-day workshops, ATA specialist council conferences, centralized district PD days)	Attending workshops or conferences (eg, full- or multi-day convention involving multiple workshops on varied topics)

Joyce and Calhoun's (2010) five models are listed in the first column. We adapted and refined the categorical language to represent the context of Alberta educators (presented in the second column). We used the five categories (listed in the second column) within questionnaires administered to teacher at Time 1 and Time 2. The final column was presented during Year Two.

## Appendix C

### Thematic Examples from Focus Group Participants

	What professional learning experience has made the most difference for your...		
	...own teaching? Why?	...school staff as a group? Why?	...students? Why?
<b>Collaborating with others</b>	Working with colleagues in order to make myself a better teacher. Watch each other in action, then discuss each other's positive and negative areas.	Getting together in groups and sharing information gleaned from other PD sessions. Hearing and reflecting on what has been tried and what has and hasn't worked.	Talking with grade team members about what does and doesn't work. Allows access to different knowledge bases and opportunities to brainstorm solutions.
	A staff willing to help each other become better. Put own time and effort into making each other a success.	Breakfasts/lunches/after school meals. Informal meetings foster a family feeling, allow for discussion, encouragement, trust-building; share achievements, acknowledge each other, discuss and get help with issues.	Observing other teachers, learning coaches. Strategies for team-building and cooperation, thinking only of my role as supportive rather than didactic.
	Professional conversations; facilitating collaborative embedded PD sessions. Ideas gleaned from other teachers; chance to listen to and reflect on teachers' thoughts.		Allow students to teach/learn from each other, feel comfortable and validated regardless of abilities; realize that everyone including myself is part of a learning community.
<b>Special projects</b>	Teacher-led PD sessions. Applicable to everyday teaching situations; gives ownership of professional learning.	Outdoor team-building retreat with Rick Matishak. Each staff member at the time said it was the best PD they had had. We had to problem-solve, trust, work together, step outside comfort zone, and set aside individual good for the team.	Balanced literacy and early literacy. Students get to grade level or above in reading. Leads to positive self-esteem and has a lifelong impact.
	Piloting a junior high reading program. First given the theory, then given time to share, develop and implement ideas.	SmartLearning. Galileo projects. Changing mindset of how children are learning differently in the 21st century.	Cathy Fosnot session on teaching math. Transformed the way people think about math and the way they teach it—"a community of math learners" who learn from one another.
	When our PD committee had two science teachers spend a day with the division's science teachers. Innovative and easy experiments, group activities and demonstrations.		

	<b>What professional learning experience has made the most difference for your...</b>		
	<b>...own teaching? Why?</b>	<b>...school staff as a group? Why?</b>	<b>...students? Why?</b>
<b>AISI</b>	<b>Constructing and expressing meaning.</b> Three-year structure allowed us to get a handle on it, implement strategies, meet and reflect, then finally get really good at it.	<b>Cycle 1.</b> Meaningful and easily replicable activities addressing specific and common literacy needs, which are widely used 10 years later.	<b>Constructing and expressing meaning</b> project. Taught students how to look at why they are reading a selection, then how to read. Used “before, during, after.”
	<b>District project.</b> Met with grade group teachers to share ideas on assessment and areas we found challenging. Developed sessions we could present to others across district. Allowed a great deal of reflection.	<b>Instructional coach</b> at each school. Helped keep PD alive (both macro and micro), brought new research/ideas/initiatives and developed them through coplanning, coteaching and reflective conversations.	<b>Reading strategies</b> to increase comprehension. All subject areas were addressed.
	<b>AISI model of professional learning.</b> Collaborative grade- and subject-specific teams allow for continuous sharing of resources and ideas; profound effect on my teaching.		<b>Assessment for learning, habits of mind.</b> With clear outcomes come clear criteria as to how students can attain goals. Goal setting became easier to do. Made a difference to student work ethic and how to improve.
<b>Conferences</b>	<b>Middle Years Conference 2010.</b> Got to choose own settings, energetic speaker, good real-life stories, funny and collaborative.	<b>Specialty conferences.</b> The more we develop as individuals, the stronger we are as a team.	<b>Assessment conference.</b> Focus was on use of PLC (professional learning community), collaboration, collegial relationships. We started to share teaching and assessment practices and tools; learning for students improved dramatically.
	<b>ATA Conference.</b> Immigration. Hearing immigrant experiences first-hand, real and very applicable. HPEC 2008. Specific, hands-on, especially games we played and analyzed as a group with curricular connections. Widened my repertoire, made me more aware of how I could make modifications for different students.	<b>Assessment conference</b> with entire staff. On the same page for outcome-based reporting; could then bounce ideas back and forth in the classroom.	<b>Students At Risk conference.</b> Gained understanding and perspective that related to each student I had.

	What professional learning experience has made the most difference for your...		
	...own teaching? Why?	...school staff as a group? Why?	...students? Why?
<b>Graduate studies</b>	Completing my MEd allowed a great deal of time to reflect on practices and best use of my time with students and learning.	N/A	MEd. Gained courage to try different things and truly embrace student independence.
	Master's project on 21st century learning. My personalized choice of topic, focused and ongoing over two years.		Engaging master's program and in-depth talks with other teachers. Lots of reading, research and affirmation of philosophy/beliefs. My practice changed and my students benefitted.
	Collaborative learning within staff as part of master's in educational leadership. Primary focus group met weekly and discussed curriculum, best practices, leveling books; acted as a sounding board. Presented at district and provincial levels.		
<b>Book studies</b>	N/A	Yearly book study ( <i>The Leader in Me, How to Talk So Kids Can Learn, Realization</i> ) and staff retreat. Common language, understanding of current pedagogy; themes are evident in our school.	<i>Teacher and Child and Between Parent and Child</i> by Haim Ginott. Learned how to better communicate with children so they trust me and are willing to communicate/work with me.
		Habits of Mind brought common focus and vocabulary for everyone K-6.	Sean Covey's <i>7 Habits of Highly Effective People</i> . Students hear about and understand the habits and are starting to "talk" and "walk" them.
<b>Personal life experiences</b>	My junior high PE teacher; a gymnastics coach I had; my husband, who is a PE teacher. I have modelled my teaching after my junior high PE teacher. I still quote my former gymnastics coach today in my teaching. My husband and I talk teaching constantly, about how we can better ourselves as teachers and coaches.	N/A	Being a parent myself. Able to share personal stories, feelings, triumphs and negatives that were overcome. The greatest teaching tools!
	Using examples of how I myself am a student and how I learn new things outside my comfort zone. Look at the process of learning and adapt things to help my students.		PD takes me to other countries. Experience another culture and share these experiences with students.

## Appendix D

### Teachers' conference-related quotes (Phase I)



Teachers' convention helps by allowing for collaboration more so than gaining resources



The themes are not mutually exclusive. Attending conferences must be combined with collaboration—I send a team, and use my PD budget to buy them dinner together!



Specialist conferences important to high school teachers since teachers have own areas of expertise. Give chance to collaborate and network with teachers with same specialty (within schools/between schools)



[Conferences for] collaboration with other teachers—clarify ideas on how; not provided but make time; English once-a-month meetings. Collaboration depends on what you're teaching—conferences help with that ie Home Ec vs English.

Micro PD versus Macro PD—get new ideas from conference or collaboration; then still get time to implement.

Outside PD [conference] for theory—collaboration [at school] to help bring learning to practical level/bring depth.

Including collaboration with support staff at school-based PD with presenters who have attended conferences would extend learning and perhaps initiate discussions with different perspectives of topic.

Sharing and comparing programming/ideas/ learning styles/ behaviours with those teaching same age level is the best PD. Done whenever we have time, ie conferences, PD sessions.

For starting teachers, collaboration and conferences are the best. For experienced teachers, selected projects based on interests and mentorship. These things change as your career changes. It is all based on your place in the process.

Conferences allow time to listen to speakers and network with other teachers; spending time with teachers we see as friends (during conferences have long lunch).

CTS conference—"love the wood" and collaboration (was best). Not consistent though; presenters can make or break it—new and relevant. Conference good for discussion with colleagues. We challenge each other.

Conference—can we use different ways to make and keep contact with colleagues? Can help when subject is not taught in duplication at your school or division.

Prefer out-of-province conference—more specific is better.

Specific: SMART training, leadership workshops, photography workshop, and meeting other art teachers, sharing assessment ideas. Great to have diversity of people from different schools and departments.

## Appendix E (Phase I)

### Teachers' AISI-related quotes of collaboration



#### **AISI funding for substitute teacher = time for independent projects**

- A powerful PD activity was a one-day poetry session I went to with a fellow LA teacher; came back super stoked about new ideas to use in our classrooms. We then booked subs using AISI money and spent day collaborating and creating poetry unit together. Next, planning to watch each other teach the lessons!
- Money for subs from AISI for observations is valuable PD support.
- We liked it when AISI became more program based and gave you TIME for collaboration or to develop projects/lessons independently.



#### **AISI Collaborative Projects and PLCs**

- Best learning because of prolific opportunities to make connections. AISI, PLCs, master's degree are all things that help us collaborate. (I'm a 28-year-old teacher so my answer is the point-of-view of a beginner teacher.)
- AISI–Collaboration–TEAM—really enjoy working with everyone. Share what we know—I love team teaching. Like to learn new theory.
- The two big ones, collaboration and projects, came out of AISI (a “chicken or an egg” thing). Funding is crucial and needs to be a priority; we need time to talk, share and research together. Maybe a better balance of that time with instruction will make learning time more effective.
- When collaborating, you always need a good leader. This is obvious in my AISI team and in my school PLC (small group) and also my whole school PLC. Cannot imagine these being as effective without good leadership we have had.



#### **AISI Coaching and Leadership**

- Collaboration focused on specific project, class or aspect of a class combined with support of an AISI coach is most effective. Focused, defined parameters, collaborative, review and refine.
- AISI: Learning coach and CFL, new ideas, reinforcing what you already know
- AISI was a focus on collaboration. It may be that the themes were “layering” and therefore more effective and memorable. Leadership became an option as the AISI developed, which was very powerful in feeling more competent and confident (being the person teaching, guiding, facilitating, coaching).



#### **AISI as a Workshop or Division-wide Goal**

- Alberta AISI workshops—more so for big goals for schools for the year
- AISI—Balanced lit/Math lit—at start was forced, pressure, scrutinized; then permission to experiment—much more accepting! Best practices

## Appendix E (Phase II)

### Teachers' AISI-related quotes of collaboration

#### What are the key professional learning experiences that led to your confidence [efficacy] ratings?

“The level of collaboration that I have experienced as an AISI leader for my school has made a great difference to my teaching.

“Collaboration with other teachers at the same grade level through AISI funding for PD, all forms of collaboration have been extremely effective in improving my teaching—AISI, peer coaching, attending workshops.

“When I collaborate with other teachers, I learn so much about assessment, instructional strategies and classroom management. Through exceptional AISI projects, teachers have become very comfortable with sharing and collaboration. We have all benefited.

“In the past, AISI was our district's vehicle by which to help teachers collaborate and address common problems. In the absence of AISI, our school staff is committed to addressing these problems together.

“I believe it is most beneficial to allow students as much time to collaborate as possible. I feel that AISI funding is a major benefit in our district to allow for teacher time to collaborate with one another across the district (not just at a school level) and to be influenced by guest speakers in our district

#### In the last 6 months, what professional learning activity has most boosted your teaching confidence in YOUR ability [teacher self-efficacy] to enhance student learning? Why?

“Collaborating with other LIFT team members. This is collaboration & AISI combined. Amazing what a wealth of knowledge experience can be!

“Having the opportunity to collaborate with teachers in my school through AISI and also through PLCs has boosted teaching confidence.

“AISI project—student success—combined strengths of collaborating teachers.

“Professional learning communities and AISI (collaboration with other teachers). These activities have given me a chance to access support in areas that are relevant right now! Suggestions on the tried and true, as well as possible other strategies have been welcome as I try to meet the needs of my students.

“AISI—I really appreciate having the opportunity to work with a coach who has received a lot of training in district-led initiatives. The time that I get to collaborate with my coach is essential to having a direct impact on my teaching. We can plan almost an entire unit of studies in one afternoon

#### In the last 6 months, what professional learning activity has most boosted your teaching confidence in YOUR SCHOOL's ability [teacher collective efficacy] to enhance student learning? Why?

“Our divisionwide AISI days where we not only get a chance to work together as a group, but also see the other staff and how they handle challenges in their schools.

“AISI—collaborating as a staff to boost our mutual goals as a school to weed out problem areas and make our school most effective.

“AISI collaborative groups because I heard of all the great things my colleagues were implementing.

“I think by modelling working with AISI coaches and other teachers I am showing the other teachers that collaboration is worthwhile, and sharing with them the successes and failures makes them realize that collaboration is best for student learning and for teacher confidence.

“AISI because teachers were given direction (reading goal), exposed to guest speakers and allowed collaboration time.

“AISI sharing shows that I am on the same track as many others that I work and collaborate with.

## Appendix F

### Teachers' time-related responses (Phase I)

We need time to work and talk with each other. (I mean REAL time to focus on what WE deem to be important.)

Embedding the PD time into our regular school hours. This shows respect for the teachers as humans, not work machines—an understanding that we need our time away from our jobs, not just adding PD outside of our regular work hours.

Our school is amazing. Everyone works together well and shares and helps each other. Great mix of young, older staff and fabulous administrators who make time for us to share.

Having more time to work with my grade grouping teaching partners. Extra PLC time. The school has recognized the importance of collaboration and provided more time for us to do it during classroom hours.

Workshops because I have seen the potential for the great things that our school could be doing. I just think there is too much resistance from a majority of teachers. Part of this resistance is caused by the lack of time given to plan and experiment. Teachers feel overwhelmed with their current course load, so they feel irritated when they are asked to do more or different things without the proper supports.

Professional learning communities, but they need to be embedded so they are more effective—after-school PLCs are a waste of time.

Given time and allowances to attend workshops on our subject interests that keep us open, flexible and up-to-date in our learning. This equates to feeding our passions, which feeds into our learning environments, and students are able to feel the passion, which in turn excites and encourages them to keep learning. Stimulates both student and teacher.

Spending part of a day collaborating with teachers; then taking time to reflect and take some personal reflection time.

Workshops with experts AND then time with other teachers to actually plan the unit/lesson from the ideas from the workshops. Hands down, the best PD I've had.

Collaboration with other teachers is highly effective. The problem is everyone has too many balls in the air to have the time to meet.

PLC—the topics are either the district led initiatives (eg, UDL) or the school-based education plan goals (eg, literacy.) Unfortunately, they are often lecture style with little time to reflect on practice and collaborate on projects.

Sit and get is not helpful ... teachers need time to create, implement and reflect on what they learned. The most valuable PD time has been time to sit with colleagues and work on such tasks.

I believe that one-shot PD doesn't work. It has to be tied to PGP's and learning takes place over time. AISI three-year cycles don't give enough time for teachers to take in new initiatives and become comfortable. No account is taken for staff turnover. You have to provide constant reinforcement.

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