CREATING A THINKING CULTURE:
A PROFESSIONAL DEVELOPMENT INQUIRY

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Dedication

In order for me to fulfill my personal dreams and professional aspirations, the level of support that was required from my family was immeasurable.

I dedicate this work to my husband Greg, my children Finley and Calyn for the constant love, unwavering confidence in my abilities, and never-ending encouragement throughout this process. You are forever my inspiration and my reason ‘why’.

To my parents, Kathy and Mirko Kain, who demonstrated by example the foundational belief that with rigor, determination, and an idea, anything is possible.

Abstract

As a school administrator, the role of facilitating impactful teacher professional development and shifting mindset to lifelong learning is a daunting task. Professional development while both a requirement and an opportunity for change in practice for teachers, does not often initiate pedagogical change in a school setting. Through the creation of this professional development inquiry framework which is built upon the principles of three interrelated dimensions – critical thinking, creativity, and collaboration (C3 thinking) - an opportunity for facilitating a renovation mindset is possible. The framework reflects professional knowledge of adult learning that is structured around an inquiry approach to teaching and learning with the goal of effectively creating a C3 thinking school culture.

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Introduction

As a school leader, it has been a steep learning curve for me to ensure the facilitation of growth and learning opportunities for a collective school staff rather than just for myself. In taking on the role of an instructional leader during a period of educational change within our province, there are certainly times where I simply am not sure where to start or what to do in order to meet the needs of a complex learning environment. Through the reflection process on professional development and leadership practice, I have realized the measurable impact that leadership can have on educational change and the role that one has as a leader in the journey of change.

In the fall of 2016, as part of a newly formed leadership team at a mid-sized Junior High School, the first couple of months of the school year were dedicated to building cohesiveness amongst the administrative team, learning about the way in which things were done at the school, and really getting a sense of who the staff was as there had been a large turnover in teaching staff. We dedicated a significant amount of time to a cultural audit of the school which entailed watching, listening, and speaking to members of the learning community in a pointed way to determine whether current pedagogical practices met the mandate of the school vision centered on faith, student achievement, and engagement. The findings of the audit initiated the professional learning conversations that began to take place with a direct focus on student learning in a faith based community. The need for change in practice was further substantiated by a provincial shift brought about by means of the Ministerial Order regarding student learning (Alberta Education, 2013). The Ministerial Order called for programming that would develop and engage students to become critical thinkers which would require a transformation in the way in which our learning community would approach teaching and learning.

From the onset of the process of change, the leadership team was determined not to solve the problems we already knew how to solve, but rather to guide the learning community to identify the challenges that had yet to be successfully addressed (Fullan, 2001). As a large group, the school staff participated in a deeply reflective exercise that addressed current pedagogical practices. As a result of this activity, several key areas of concern were targeted, solutions were collectively developed, and changes were recommended as a result of open and honest conversations centered on what was best for student learning (Elmore, 2005). Through the collective work of the learning community, a complete overhaul of professional development occurred that allowed dedicated time to focus on the identified areas of relationship building, opportunities for cross-curricular inquiry based work, and peer collaboration. In addressing these, we hoped that a greater depth of teaching and learning would occur. In the first year of this process, several positive modifications in teaching and learning took root, but many of the changes occurred in isolation or failed to transcend beyond the grade level Communities of Practice (COP). Early efforts of change led by the administrative team were unintentionally focused on revolutionary change which ultimately resulted in short term gains in teaching and learning.

During this same period of time, as part of my Master in Education program I was enrolled in a class that focused on leading educational change through curriculum development and classroom studies. As a result of the rich discussions that were generated in this class, a seed was planted in my mind about what how our leadership team needed to reorient their own thinking in regards to teaching and learning. In reframing my own approach to educational change, our leadership team recognized our shortcomings and began to embark on a School

Improvement Plan (SIP) that would be aligned with establishing a thinking orientation, enriching and refocusing our goals, and invigorating our practice (Gini-Newman & Case, 2015, p. 17).

My project is a professional development inquiry plan that builds upon the principles and pedagogical practices of three interrelated dimensions – critical thinking, creativity, and collaboration (C3 thinking) (Gini-Newman & Case, 2015). The inquiry plan focuses on thinking as an orientation rather than just an outcome, and the critical, creative, and collaborative dimensions of thinking is considered by Gini-Newman and Case (2015) as the "fundamental approach that underpins how we conceptualize the very nature of schooling" (p. 30). Gini-Newman and Case (2015) describe a C3 thinking framework that focuses on four structural elements: shaping climate, building capacity, creating opportunity, and providing guidance (p. 64). Using this framework as a starting point and guide, I developed a cascading approach for professional learning that incorporates C3 thinking, enhances learning through digital technology, and meets the unique requirements of adult learners. The professional inquiry plan addresses the overarching question of "How can one cultivate a renovation mindset in order to support and create C3 thinking classrooms throughout a school using an inquiry approach to teaching and learning?" The project provides a blueprint for leading a professional community of learners that will shift their teaching focus from goals of knowledge, skills, and attitudes to goals of "fostering deep understanding, real-life competencies, and genuine commitment" (Gini-Newman & Case, 2015, p. ix). This inquiry project is really asking a learning community to transform the culture, "to change the way things are done" with the goal of reculturing (Fullan, 2001, p. 44). The plan to implement a thinking classroom mindset is a long term plan that is based on the building blocks of sustained growth. Gini-Newman and Case (2015) note that "sustained growth includes conversations with colleagues, creation of learning and assessment

activities, access to professional resources, and classroom modelling" (p. 244). The inquiry plan draws upon the professional learning that occurred throughout the Master of Education program course work specifically in areas related to critical thinking, leadership, and adult learning in a professional context.

The current calls for reform within the province of Alberta that seemingly fall under the slogan of "21st century learning" have really been the catalyst to look at what we do in schools, and how we are able to best meet challenges of teaching and learning in this time of perceived change. Gini-Newman and Case (2015) acknowledge that the "overwhelming call for reform … is confusing and not entirely coherent" (p. ix). Rather than looking to completely redirect educational efforts with each new initiative, perhaps educational leaders and educators need to examine what is working and refine current practice so that initiatives become anchored in a school's guiding principles. In order for a thinking orientation to be implemented in our classrooms, an inherent belief which "places thinking at the center of all teaching and learning is foundational" (Gini-Newman & Case, 2015, p. 23). For a thinking orientation to be embedded into everything we do, educational leaders must work with educators to invigorate their practices so that thinking becomes a fundamental component of professional pedagogy. This is a central focus of the professional inquiry plan presented here.

While C3 thinking is a fundamental component of the inquiry plan, the enhanced use of digital technologies is critical in both teaching and learning. Gini-Newman and Case (2015) identify digitally-enhanced learning as one of the guiding principles of instruction that facilitates deep understanding. One of the most expensive recent educational initiatives is the call to increase the prevalence of digital media and networked technology use, however; there is a gap that exists in the use of the technological resource for meaningful and purposeful learning. A

recent international study by the Organization for Economic Cooperation and Development (OECD) analyzed Programme for International Students Assessment (PISA) performance and found that countries that invested heavily in information and communication technologies for education have seen no noticeable improvement in PISA performance (OECD, 2015). Gini-Newman and Case (2015) assert that "if schools are going to invest in digital content, they must be sure to find the value added to their students' learning" (p. 213). Digitally enhanced learning refers to "the use of digital technologies within virtual and face-to-face classrooms to enrich learning environments and experiences beyond what was possible through non-digital means" (Gini-Newman & Case, 2015, p. 213). A greater emphasis on pedagogical practice surrounding technology and the use of personal devices must be implemented if there is going to be a direct positive correlation to an increase in student learning. A collaborative approach to the emphasis and development of shared norms and meanings surrounding the implementation and use of technology between all members of the organization is a necessary first step to the changing of behavioral norms (Bush, 2011).

Finally, this professional development inquiry applies the many theories, conditions, strategies, and phases of implementation that are necessary for professional development geared towards adult learners. Based on course literature surrounding the role of leadership within the context of teaching and leading Professional Learning Communities (PLCs), several key factors appear to be essential conditions necessary for educators' growth and change. As schools are increasingly complex environments, the need to create an atmosphere that is conducive to adult learning becomes a critical task for educational leaders. Failure to cultivate a learning environment that engages adult learners can lead to unsustainability and frustration (Fullan, 2001). Accordingly, effective leadership must involve developing a vision and direction,

developing people, and developing the learning community. Specific to developing people, effective leaders recognize and influence the development of human resources in their schools by offering intellectual stimulation, delivering individualized support, and providing appropriate models of adult learning (Leithwood, Seashore, Anderson, & Wahlstrom, 2004).

This professional development inquiry plan will aid in establishing and nurturing the PLC within my leadership context. The objective of the inquiry plan is to adopt a mindset of educational renovation which could help to affirm, revise, and aspire our teaching staff to create an atmosphere that supports and develops our students' critical, creative, and collaborative (C3) thinking and learning (Gini-Newman & Case, 2015).

Literature Review

The purpose of this section is to examine the scholarly and professional literature that informed the development of this professional inquiry plan. The first area of research is leading organizational and cultural change within a school setting in order to adopt a C3 thinking renovation mindset. The scholarship related to the practice and importance of C3 thinking for both teaching and learning is the second area of focus. Relevant research on adult learning and the change process involved in adopting new practices is reviewed. The implications and considerations of that research for creating effective professional development are then identified. Scholarship on these issues all contributed to the design and implementation of the professional inquiry plan. Understanding how the plan was informed by findings in these areas is crucial for its successful implementation.

Leadership and Cultural Change

Literature on leading organizational change in a school setting provides numerous definitions of what leadership is and what the role potentially encompasses. Many classifications

of leadership directly correlate to the multifaceted roles and responsibilities that leaders have. Historically, school leaders were viewed as managers who were tasked with job of maintaining existing school frameworks (Alberta Department of Education, 1952). Traditional views of the roles and responsibilities of school leaders are in direct contrast to those of today's contemporary leaders. Modern leaders are much more than just managers of school resources and are concerned with both leadership and management. As Valentine and Prater (2011) indicated, "[t]he principal's role has become increasingly complex as the nature of society, political expectations, and schools as organizations have changed. The predominant role enacted by principals from the 1920's until the 1970's was one of administrative manager" (p. 5). In actuality, both management and leadership capacities are needed as Bush (2011) asserts "leadership and management need to be given equal prominence if school and colleges are to operate effectively and achieve their objective" (p. 9). Mackinnon and Pynch-Worthylake (2001) contend that "it is far too simplistic to suggest that we can categorize administrators into leaders and managers…inspired leadership takes us places we never imagined, while good management takes us places we have already been. Both involve change" (p. 3).

Within the province of Alberta, school leaders are guided by a framework which directs professional practice called the *Leadership Quality Standard* (Alberta Education, 2018). The purpose of the Leadership Quality Standard is to define the expectations of school leaders, and identify the indicators of successful leadership practices. While the document has been widely adopted by many school divisions as an important reflective tool, it also serves as an outline of professional responsibilities as it indicates nine dimensions of leadership that are necessary in leading an organization. The leadership competencies specific to the inquiry framework focus primarily on the indicators identified in both embodying visionary leadership and understanding

and responding to larger societal context, with an emphasis on responding to the impacting contexts through the creation and implementation of a shared vision. The daunting reality is the role of the principal has changed and in order for effective leadership to exist there has to be a shift in thinking to where there is a greater emphasis on shared decision making and PLCs (Dufour, 1998). A 21st century leader must recognize the collective capacity of an organization and distribute the leadership into the capable hands of colleagues (Fullan, 2001). While it is important for school leaders to have a well-grounded competency in various dimensions of leadership, the "scope and depth of knowledge required are far too great for any one leader or leadership team to master – specialization and networked learning opportunities are essential" (Robinson, 2011, p. 150). The notion of a superhuman or savior leader, needs to be replaced with a more distributed and collaborative model of guiding and leading quality practices of teaching and learning that promote school growth and collegial discourse (Elmore, 2005; Fullan 2001; Seashore Louis & Wahlstrom, 2011; Timperley, 2011).

Effective leadership in education involves creating the cultural and organizational conditions that are the foundation for the development of core assumptions and practices that impact student learning. Research illustrates and supports the notion that every school has a culture and that the prevailing culture within a school has widespread impacts on student success and universal school transformation. Barth (2002) notes that

> A school's culture is a complex pattern of norms, attitudes, beliefs, behaviors, values, ceremonies, traditions, and myths that are deeply ingrained in the very core of the organization. It is the historically transmitted pattern of meaning that wields astonishing power in shaping what people think and how they act. (p. 7)

Furthermore, the cultural environment combined with leadership qualities that exist within a school can either promote learner growth or hinder and complicate a growth mindset. For cultural or organizational change to occur, a renovation of existing practice needs to be effectively communicated by leadership (Robinson, 2011). In order for an entire school staff to commit to change, they need to share the belief that current practices are not meeting the learning communities' needs (Gini-Newman & Case, 2015). Gini-Newman and Case (2015) believe that when beginning instructional change, "developing the collective understandings and abilities of educators – the social capital – is a key factor in successful education change" (p. 237).

Change within an organizational context can be one of, if not the most difficult things that school leadership undertakes (Deal & Peterson, 2009). Seashore Louis and Wahlstrom (2011) found that "changing a school's culture requires shared or distributive leadership, which engages many stakeholders in major improvement roles, and instructional leadership, in which administrators take responsibility for shaping improvements at the classroom level" (p. 52). In order to begin the process of change in school culture, a leader must become aware of the prevailing culture that already exists, and have a clear vision that will mobilize the school community to change (Barth, 2002). Understanding the foundations of a school's culture is essential if a leader is to guide and sustain change. As a professional community, teachers tend to be "fragmented by fear" that comes "from the fact that teaching is perhaps the most privatized of all the public professions" (Palmer, 1998, p. 142). These isolationist and protective tendencies are stumbling blocks to any significant collegial collaboration. Seashore Louis and Wahlstrom (2011) state "a typical school's organizational culture often gets in the way of change. Even with the advent of PLCs, most work in schools is still done is isolation" (p. 53).

Sustainable and foundational change comes from leadership practices that have an understanding that all teachers bring worldviews, experiences, expertise and in turn possess varying degrees of leadership capabilities (Townsend & Adams, 2009). Effective leaders strive to encourage teachers to have a "greater voice in shaping programs, supporting the mission, and guiding the team toward its goal…in an attempt to realize a vision or to 'reculture' the environment (Gabriel, 2005, p. 3). Gini-Newman and Case (2015) recognize that "educational leaders are often pressured to seek immediate, predetermined changes to the school system ….and that pressing for wholesale changes isn't a very robust approach" (p. 232). The process of reculturing requires a renovation mindset which "respects the need to affirm the effective aspects of teacher practice while seeking to refine areas that require improvement" (Gini-Newman & Case, 2015, p. 234). Tied to renovation is the building of a shared mission and vision that will identify and lead to a coherent organizational practice, refine current practices through innovation, and strengthen the commitment to the calling of education (Deal & Peterson, 2009). The investment made into the development of dense and broad leadership often described as distributed leadership, leads to sustainable and continuous school growth.

A common criticism of an effective distributed leadership model is that it tends to offload managerial and leadership responsibilities onto teaching staff while diminishing the workload of the school leader (Bush, 2011). To counter this view, distributed leadership when exercised in good faith, allows for a formal school leader to have their capacity extended across other areas of organization effort (Barth, 2004). Understood in line with the Alberta leadership standard of developing leadership capacity, a school leader is more accurately described as a leader of leaders who aims to influence staff to higher level of commitment in achieving school goals (Bush, 2011). Fullan (2011) offers a succinct summary of the importance of distributed

leadership when he states that the mark of effective leadership is not "who you are as a leader but by what leadership you produce in others" (p. 137).

Inquiry-based Learning and the Adoption of a C3 Mindset

In the last decade, Alberta Education has undertaken a range of initiatives aimed directly at reforming a traditional educational system in order to ensure students in the province of Alberta maintain a high performance standard nationally and internationally (Alberta Education 2010). In 2010, Alberta Education published *Inspiring Education: A Dialogue with Albertans*, which sought to create a long term vision for education by answering the question "what will an educated Albertan need to be successful in the year 2030?". This document provided an opportunity for Albertans to "articulate their vision for education through specific outcomes which were summarized as 'the Three Es' of education for the 21st century,' which describe a student who is an "engaged thinker and an ethical citizen with an entrepreneurial spirit"(pp. 5-6). Underlying these three major outcomes for education in Alberta, are six core values. These values are to be embraced by all in the educational community and should be expressed in every decision related to curriculum, teaching, assessment, policy, and governance. The six core values of Inspiring Education are: opportunity, fairness, citizenship, choice, diversity, and excellence (Alberta Education, 2010). This ground-breaking and transformational document marked a major step forward for Alberta schools, and it provided the basis for the 2013 Ministerial Order on Student Learning. Following the report, a framework that described eight competencies associated with the Three E's (Alberta Education, 2011) was developed and, along with supporting literature, has continued to inform and guide the current work of schools, school leaders, and educational policymakers.

According to Alberta Education (2013) cross-curricular competencies are an interrelated set of attitudes, skills, and knowledge that can be drawn upon and applied to a particular context for successful learning. These competencies are to be developed by every student, in every grade, across every subject area and discipline. The following competencies, which are "streamlined expressions of the competencies identified in the Ministerial Order on Student Learning (#001/2013)" include:

- Critical Thinking,
- Problem Solving,
- Managing Information,
- Creativity and Innovation,
- Communication,
- Collaboration,
- Cultural and Global Citizenship,
- Personal Growth and Well-being.

They are "aimed at helping students reach their full potential as life-long learners" (Alberta Education, 2016, p.1). The competencies are a reflection of the 21st century skills that students will be required to have developed in order to successfully navigate life beyond the walls of the classroom.

The emphasis on teaching students to construct their own understanding of key ideas rather than rely on text-book based teaching and rote memorization is a direct result of a large scale student awakening. Students require, and are demanding, direct and authentic experiences which will provide them with workplace ready skills. Barron and Darling-Hammond (2008) echo this stating that "education today must focus on helping students learn how to learn, so they can

manage the demands of changing information, technologies, jobs, and social conditions" (p. 3). This notion is echoed globally as the OECD states that "there is greater dependence on knowledge, information and high skill levels, and the increasing need for ready access to all of these by the business and public sectors" (OECD, 2005, p. 15). Focusing on 21st century competencies is correlated to the demands of life and work in the 21st century. The reality is that students today "must be able to communicate and collaborate, research ideas, and collect, synthesize, and analyze information … to be able to apply different areas of knowledge to new problems and challenges" (Barron & Darling-Hammond, 2008, p. 3).

The calls for change to the traditionalist teacher-centered approaches to education have led to an increase in interest in inquiry-based approaches to teaching and learning. These approaches are student centered and focus on authentic, hands on, learning with the intent of engaging students to develop, or deepen, knowledge and understanding. These inquiry approaches to education can be categorized into several of the following models as noted by Friesen and Scott (2013) but not limited to:

> authentic intellectual work (Newmann, Bryk, & Nagaoka, 2001), discipline-based inquiry (Galileo Educational Network Association, 2008), project based learning (Thomas, 2000; Thomas, Mergendoller, & Michaelson, 1999), problem based learning (Barrows, 1996); design-based learning (Hmelo, Holton, & Kolodner, 2000), and challenge-based learning (Johnson & Adams, 2011). (p. 14)

The inquiry models vary in their structure and purpose ranging from a teacher-directed format to self-directed, and a learner-centered format. However, regardless of the model all the types of inquiry are interactive and focused on collaborative learning which aims to empower learners.

The use of inquiry as an effective method of instruction has been recommended for many years beginning with John Dewey who in 1938 suggested education as an internal and personal process whereby learners utilized their prior knowledge and experiences to find and develop meaning in novel situations in order to create new knowledge (Dewey, 1938; Lambert, 2002; Windschitl, 2006).

While the shift toward more inquiry-based approaches to education is not something new, contemporary initiatives have been fueled by a range of large scale studies whose findings show a staggering trend in low-student engagement and withdrawal from the traditional learning process (Gallup, 2016; Willms, 2003; Willms, Friesen, & Milton, 2009). The aforementioned studies focus on the correlation between the dynamics of student engagement (social, emotional, intellectual) and the students' learning experiences. Common themes emerging from this work identify "that young people's engagement in school affects not just their future, but the quality of their daily lives and experiences now" (Willms et al., 2009, p. 7). The 2007 study by the Canadian Education Association which surveyed 32,322 students in schools across Canada, revealed that poor levels of "engagement," defined as "a serious emotional and cognitive investment in learning," were a universal theme across educational jurisdictions (Willms et al., 2009, p. 7). The data was consistent with previous studies (Wilms, 2003) that showed Canadian students have low levels of engagement with "levels of participation and academic engagement falling steadily from grade 6 to grade 12" (Willms et al., 2009, p. 17). The decreasing levels of engagement from middle to high school aged students is also mirrored in participation and attendance data, both showing significant declines. While participation levels decrease steadily, a shift from 90 percent student attendance in grade 6 to a 40 percent low in grade 12 are indicators of disengagement (Willms et al., 2009, p. 17). Along with the declining levels of engagement,

there is a growing concern about both the achievement gaps amongst a variety of student groups that exist, and the growing number of students who are dropping out or failing to complete middle or high school (Bowlby & McMullen, 2002; National Research Council, 2003).

While there have been pressures to shift to more inquiry-based instructional practices, the current knowledge based economic climate, the rise of new technologies and technological advances, digital connectedness, and research from the learning sciences support contemporary reforms efforts. Wotherspoon (2014) argues that calls for educational reform in Canada are not a new phenomenon, but rather are always shaped by the political, social, and economic climate. Gini-Newman and Case (2015) extend this notion contending that the current problems facing education are not new but rather manifestations of the disconnect that exists between what is learned in schools and the knowledge needed for real world application and relevance (p. 5). Current research supports the idea that everything people learn is either practiced immediately, filed for later use, or sadly forgotten (Willingham, 2009). If students are to be challenged and engaged in the process of learning itself, they must understand how newly acquired information is relevant in the present, and more importantly how it can be utilized in their futures. It would be reasonable then to make the connection that where learning occurs cannot be separated from the actual learning itself (Daniels, 2011).

Inquiry or project-based learning are at times viewed as slogans or buzzwords that often fall under the umbrella of 21st century reform, but are seldom understood by educators (Gini-Newman & Case, 2015). The use of inquiry as an effective frame for instruction has been suggested and refined for many years. These inquiry approaches tend to be student centered and have been shown to improve attitudes towards learning, increased levels in the motivation to learn, and higher levels of achievement (Friesen, 2010; Prince & Felder, 2007). Inquiry based

instruction uses activities to engage students and to develop, or deepen, knowledge and understanding. This approach to teaching and learning is a shift in mindset wherein students are encouraged to think critically, be creative, and work cooperatively at all stages of the learning process (Gini-Newman & Case, 2015). The process of inquiry and critical thinking represents a shift in the role of the teacher as it moves to one of flexibility as both a facilitator and a learner. Gini-Newman and Case (2015) argue for the efficacy of "sustained inquiry" and "characterize inquiry as a mindset distinguishing it from a specific practice or procedure" (p. 159). Embedding sustained inquiry into the instructional framework stresses the importance of teacher facilitation and support of inquiry in a meaningful way. Gini-Newman and Case (2015, p. 16) identify four criteria as essential in distinguishing their approach of sustained and critical investigation from a student directed inquiry model:

- Purposeful,
- Prominent and transparent,
- Continuous, and
- Genuinely investigative.

Within this sustained inquiry model, the teacher ensures authenticity in the learning process which in turn promotes engagement, through the development of inquiry that is student-centered and develops real-world skills such as critical thinking, collaboration, independent learning, and problem solving (Behizadeh, 2014; Grant & Brach, 2005; Jacobson, Lock, & Friesen, 2013; Klem & Connell 2004). Gini-Newman and Case argue that "thinking is not simply one goal among others, it needs to be at the heart of everything we do in schools – as a fundamental approach that underpins how we conceptualize the very nature of schooling" (p. 30). This distinction allows for a flexibility in designing inquiry to meet the needs of a particular group of

learners which can vary in depth, time, and complexity. It is not realistic to expect all students to direct their own inquiry when there is limited knowledge or experience with a particular topic, or to core curriculum outcomes they might be expected to meet along the course of their learning. A procedure based approach to defining inquiry would be too prescriptive (Gini-Newman & Case, 2015).

The call for reform in education has erupted as a result of the difficulties that educators are having to address as they look to make learning accessible and possible for the wide range of learners in the classroom. Not only are educators being challenged in delivery but there is a reciprocal push to provide opportunities for learner success. Teachers are tasked with making education meaningful and engaging for an increasingly disenfranchised generation of students. According to 2008 statistics in the Canadian Education Association report, 41 percent of students from grade 6 to 12 are intellectually engaged in school with much lower levels of engagement in senior grades (Canadian Council of Learning, 2010). The failure to create teaching, learning, and assessment conditions that engage students and foster in-depth understanding and high-level of skill development is not a new revelation as John Dewey had stated that schools needed to be responsive to a broad spectrum of learners, not just a select few (Gini-Newman & Case, 2015 p. 8). Research has demonstrated that reframing curricular content into inquiry-based problems for students to solve is much more successful in promoting student engagement, developing students' literacy, and results in deeper learning especially in reluctant students. Inquiry invites all learners into the classroom as full and necessary participants. Using inquiry based strategies to problematize the curriculum is valuable to all students as it makes the purpose of learning explicit, provides opportunities to put into practice what has been learned, allows for the development of competence, and results in a deep understanding of the content, leaving the

learner with a sense of accomplishment and ownership in the learning process (Gini-Newman & Case, 2015; Smith & Wilhelm, 2006; Wilhelm & Wilhelm, 2010). Supporting results from the National Research Council study suggest that "students are more engaged when they are pushed to understand…being required to explain their reasoning, defend their conclusions, or explore alternative strategies and solutions" (National Research Council, 2000, as cited in Gini-Newman & Case, 2015, p. 40). Klem and Connell (2004) additionally report that higher levels of engagement by students have correlating positive outcomes in the areas of academic achievement and increased student attendance. Inquiry as described by the National Research Council (2000), is an educational setting where learners: are engaged by scientifically orientated questions; give priority to evidence; formulate explanations from evidence; and evaluate their explanations in contrast to alternate explanations. This engagement experience is similar to what Csikszentimihalyi (1990) described as 'flow' in education. He explained that the state of happiness or "flow" means becoming so immersed in an activity that nothing else seems to matter. The conditions that must exist for this "flow" experience include a clear purpose, intermediate goals, immediate and continuous formative assessments, appropriate age and skill level challenge, a sense of student choice and voice, along with social interactions (Newmann & Associates, 1996).

In addition to student engagement, Gini-Newman and Case (2015) and Wilhelm (2007) suggest that a supplementary argument to support C3 thinking in the classroom is rooted in the belief that an inquiry approach to both teaching and learning not only reaches the disenfranchised/ disengaged students but also cuts through socio-economic factors that have significant impacts on student achievement. Through the formation of essential questioning and the sharing of personal experience to grow content knowledge as part of the inquiry process,

research has shown a greater positive impact on student performance than any other influencing factor (Wilhelm & Wilhelm, 2010). In their analysis of 138 studies, there was a clear indication that inquiry-based teaching strategies are more likely to actively engage students in the process of learning as well as improve overall knowledge understanding and retention (Minner, Levy, & Century, 2010). Results from the National Research Council and Institute of Mathematics also demonstrate that inquiry approaches to teaching and learning greatly improve student achievement (McTighe, Seif, & Wiggins, 2004; Weglinsky, 2004). The results make a compelling case for the potential an inquiry-based or thinking approach to instruction has, especially when used to enhance student achievement, engagement, and performance.

Adult Learning and the Change Process

While literature clearly demonstrates how inquiry and the adoption of a C3 thinking benefits student learning and engagement, it also outlines and highlights the importance of the role of the teacher as leader and learner in the process. Gini-Newman and Case (2015) indicate that "making small but continual adjustments" to current teaching practices will "ultimately lead to greater and more sustainable improvement" (p. 233). Promoting a cultural shift within a school context is no small task, and it is important to understand that meaningful change at any level requires a dedication time, resources, self-directed learning, and the commitment to build on the current practices of teaching staff. Gini-Newman and Case (2015) point out that "a teacher's foundational beliefs and instructional approaches are constructed over time with careful thought, practice, and refinement…they are deeply ingrained habits and, even more profoundly a part of teacher identity" (p. 234). As schools are increasingly complex environments, the need to create an atmosphere that is conducive to adult learning is a critical task for educational leaders. Failure to cultivate a learning environment that engages adult learners can lead to

unsustainability and frustration (Fullan, 2001). Accordingly, effective leadership must involve developing a vision and direction, developing people, and developing the learning community. Specific to developing people, effective leaders recognize and influence the development of human resources in their schools by offering intellectual stimulation, delivering individualized support, and providing appropriate models of adult learning.

Assumptions of Adult Learning

In an attempt to differentiate between the way in which adults and children learn, the concept of andragogy was developed. Malcolm Knowles popularized the concept of andragogy as the art and science of helping adults learn, by contrasting it with pedagogy which is defined as the art and science of teaching children (Knowles, 1980). Based on humanistic psychology, andragogy is essentially a "model of assumptions" about adult learners who are characterized as being autonomous, free, and growth orientated (Knowles, 1980, p. 43). Knowles identified five assumptions that are core characteristics of adult learners, including the self-concept of the learner, role of the learner's experience, readiness to learn, orientation to learning, and the motivation to learn. Based on these characteristics, educational leaders meet the needs of adult learners by incorporating andragogic characteristics into professional development opportunities based on the recognition that adult learners acquire knowledge differently.

The first assumption that Knowles makes about adult learners focuses on the self-concept of the learner. This assumption ascertains that as a person matures, his/her self-concept moves from dependency on others towards increasing self-directedness (Knowles, 1980, p. 43). The idea of self-directedness is further extended by the notion that adult learners need to be responsible for their own decisions, and should be treated as capable of self-direction. Adult learners need to have a certain amount of flexibility to identify their learning needs or goals and

evaluate their progress. Current professional development practices and opportunities for adult learners within school communities speak to this assumption of the learner directing professional development through their self-awareness of what is needed specifically to improve their own practice. Palmer (1998) notes that "no matter how technical my subject may be, the things I teach are things I care about – and what I care about helps define my selfhood" (p. 17). Within the province of Alberta, professional development funds which are determined through collective agreements with individual school boards provide ways in which teachers can access professional development opportunities that are self-directed. The flexibility of the fund offers adult learners an opportunity to have voice, choice, and set the direction of their own learning. For example, within our school division each full time equivalent teacher is allocated $500 yearly up to a maximum of $3,500 that can be used at their discretion for personal growth.

Despite the availability of the discretionary professional development funds, the mode of professional development delivery, whether site based, divisionally based, or professionally associated tends to fall back to traditional keynote speakers, workshops, group studies, or online courses. These approaches are characterized by the clearly defined roles of perceived experts and passive receivers of information (Townsend & Adams, 2009, p. 84). Traditional formats of professional development can be criticized for not giving adult learners the time, activities, and content necessary to increase knowledge and implement meaningful change (Birman, Desimone, Porter, & Garet, 2000). Moreover, Knight (2011) contends that, "goals that others choose for us seldom motivate us to change" (p. 25). Effective leaders recognize this discrepancy, understand that teachers are the locus of control for their own learning, and are able to help adult learners navigate current and desired practices which enable them to meet their individualized goals.

The Individual Professional Growth Plan (IPGP) is the instrument used in Alberta that allows teachers to guide and demonstrate their own learning. Within the province of Alberta,

> teachers have a professional responsibility to keep abreast of new developments in education and to continue to develop their professional practice. Teacher professional growth means the career-long learning process whereby a teacher annually develops and implements a plan to achieve professional learning objectives or goals that are consistent with the Teaching Quality Standard. (ATA, 1984)

The IPGP is a professional document that teachers must submit to their principal at the beginning of each school year. Although it is a required document, the IPGP is a way in which adult learners within a school setting can engage in self-reflection that is about their craft, their skill set, and current best practices. The IPGP has the potential to create a self-awareness that may not otherwise exist. Cranton (1994) explains that "many educators cannot describe what they do in practice let alone say why they do what they do. By questioning and describing currently held perspectives, an educator can come to a self-understanding" (p. 217). While an IPGP can provide the potential for self-awareness through the lens of objective reflection when used effectively, Knight (2011) contends that "educators, like everyone else, can be blissfully unaware of their own need to improve. The way in which we perceive our own strengths or weakness may not necessarily be reflective of a teacher's own professional development" (p. 21). Whether a formal document such as the IPGP is used or not, an effective school leader will encourage reflection and challenge adult learners to critically examine assumptions about their work and rethink and reorient how it can be performed.

Knowles' second assumption of adult learning focuses on the role of the learner's experience. Adults accumulate a variety of experiences over the course of their lives and these

collective experiences are also representative of learning that extends beyond just oneself (Knowles, 1980, p. 44). This assumption compels the adult learner to draw upon her or his accumulated life experiences to aid in the acquisition of new knowledge and deeper learning. Making sense of experiences is a way in which adult learners understand who they are, how their identity is rooted in their past life experiences and how this translates to the work that they currently do (Knight, 2011). Effective school leaders recognize the potential impact that learning experiences can have on school culture and should aim to foster teacher leaders within the school. Barth (2002) identifies the relationship that can exist between teachers leading and active learning within the school, in addition to the mutual benefits for all of the learning community. In addition, Gabriel (2005) notes that "people want to feel that they are a part of something significant, that what they do matters, and that they are contributing members to a common goal. Teacher leadership creates a greater sense of ownership, buy-in, and community" (p. 21). School leaders must create learning environments where the knowledge, expertise, and life experiences of the adult learners can be deployed through distributed leadership to help facilitate and nurture successful practices. When expertise is distributed, one person does not monopolizes an entire body of knowledge, rather there is a connectivity between the adult learners that insures a commitment to collective rather than individual values (Elmore, 2005). Furthermore, creating schools where transformational leadership is present requires a shift in thinking surrounding teacher leadership. Recognizing that adult learners can assume roles in a variety of leadership capacities within the school setting has the potential to change and refine best practices that can ultimately help to reach individual and collective visions and goals.

Despite the richness of any given learning experience, a teacher's understandings at times can be filled with bias and unwarranted presuppositions. The reluctance to change or an

unawareness of the necessity to change can create a negative professional learning environment. As Elmore (2005) summarizes, "our days are filled with successes and failures, positive and negative interactions, and over time we create our own story of why life occurs the way it does" (p. 23). In these situations, it is essential for individuals to engage in conversations with adult learners that are open, two-way forms of communication. Leaders must also be willing to have conversations that address some difficult discussions that need to be had in order to move forward. These "non-discussable" conversations should always occur through the focused lens of a supportive and developmental approach (Barth, 2002, p. 8). An open dialogue can provide opportunity for the adult learners to name, acknowledge, and address the non-discussable which could be impeding their self-directed learning, limiting their flexibility to pursue or readdress past failures, ultimately hampering their growth mindset.

The third assumption by Malcolm Knowles takes into account the readiness of the adult learner to gain new knowledge. This readiness to learn is typically experienced when there is an antecedent that requires the learner to experience a need to learn, such as a new social or life role (Knowles, 1980, p. 44). As adult learners mature, their readiness to learn is less about the developmental tasks associated with psychology and more orientated to the developmental tasks connected with their social or professional roles (Knowles, 1980). The type of learning that is presented to adult learners must reflect the variety of stages of development that may exist for the learner.

Additionally, leaders must provide access to an active learning environment which matches the way in which adult learners acquire and retain knowledge. Successful leaders recognize the varying concerns and needs of adult learners and are able to provide multi-faceted approaches to professional development. Facilitation of learning becomes much more dependent

on the level of rapport and trust within the adult relationship. According to Timperley (2011) relational trust is built and "forged through day-to-day social exchanges defined by respect through a genuine sense of listening to others, personal regard shown by a willingness of participants to extend themselves beyond what is formally required" (p. 148). This relational trust is the foundation for professional growth. A supportive culture within the learning environment must be established in order for risk-taking to occur (Palmer, 1998).

A clear limitation to Knowles assumption of an adult learner's readiness to learn is that, while the adult learner is individually unique, the timing of the teachable moment can be limiting within the framework of a school setting or a professional development opportunity. Dependent on the number of participants, it can be an arduous task for leaders to try to meet everyone at their particular level of readiness. Additionally, inherent to the level of readiness is the connection it has to what it might mean to the identity of the adult learner. The level of achievement, both positive and negative, has the potential to impact the willingness and level of participation of the adult learner identity and self-hood (Knight, 2011).

Knowles' fourth assumption centers on the adults' orientation to learning. Adult learners see education as a process of developing increased competence to achieve their full potential in life (Knowles, 1980, p. 44). Knowles basic premise is that adult learners want to be able to apply whatever knowledge and skill they gain today in order to live more effectively tomorrow. To make this transference possible the learning should be focused on a problem or performance based approach with the intent of immediately using the acquired knowledge (Knowles, 1980, p. 53). The incorporation of a problem-based approach should maintain a focus on the identification, exploration, and attempted resolution of realistic problems as identified by the adult learners. Knight (2011) acknowledges that "one of the most rewarding aspects of work is

tackling challenging problems. People enjoy the opportunity to use their brains to invent an elegant solution to a thorny problem" (p. 25). There is a certain level of flexibility that is required by leaders in order to help adult learners identify their own learning needs and appropriate use of available resources so that they can apply the new knowledge to the original problem and evaluate their learning processes. Successful implementation of this assumption within a school would require leaders to engage adult learners in relevant problems, give them responsibility over their own self-directed learning, and value their existing knowledge and experience.

Knowles last assumption centers on the motivation of the adult learner. The motivation of the learner is intrinsically driven and is not derived from external factors (Knowles, 1980). The motivation of an adult learner is very purposeful, and effective leaders recognize the significance of understanding the specific individual motivators which drive their engagement in learning. The understanding of purposeful learning helps leaders create a knowledge base about the effective ways in which to help each adult begin the process of learning, sustain their learning, complete and possibly even extend their learning. Through the identification and establishment of conditions that enable adult learners to be effective, a leader is able to minimize barriers to professional learning that may arise. Examples of barriers include a lack of time, money, confidence, or interest, lack of information about opportunities to learn, scheduling problems, or perceived red-tape (Townsend & Adams, 2009). Effective leaders also recognize that learning and professional development are not linear processes. Knowledge acquisition is not uniform and it certainly can present itself differently dependent on the individual adult learners needs. Understanding that there will be dips and that the process of development requires an assortment

of skills at different stages of learning can help continue to motivate the learner who may be discouraged.

Implications and Considerations for Professional Development

Effective leaders identify and implement forms of teaching and learning that are appropriate and effective for adult learners. This requires a critical examination of professional learning practices and adult learning theories. While the adult learning theories of andragogy, self-direction and transformative learning provide insights into the ways in which adults learn, there is not one stand-alone theory or method of professional development that is without criticism or limitations. Effective leaders recognize that much like the students in classrooms, the needs of adult learners are complex, varied and a 'one size fits all approach' does not apply. Building strong relationships with staff members helps leaders become aware of their complexities. Establishing mutually respecting and trusting relationships in adult learning environments helps facilitate the creation of learning communities that support and sustain professional growth. Knight (2011) recognizes that "professional learning fails when leaders underestimate how complicated change and growth can be. Just telling people what to do and expecting them to do it is an approach that is seldom motivating or effective for professionals" (p. 20). The implications of Knowles' assumptions about adult learners are that in order for professional learning to be effective, professional growth opportunities should be determined by teachers, focus on enhancing professional practice, be ongoing, coherent, and coordinated and grounded in social learning (Patton, Parker & Tannehill, 2015). Impactful professional development requires a shift in thinking that also requires major personal and organization shifts in attitudes, beliefs, and practices. Implementing sustainable systematic change only occurs when there is a framework that reflects a professional knowledge of adult learning is structured around

inquires that are guided, supported and encouraged by leadership (Gini-Newman & Case, 2015; Patton et.al., 2015).

Creating A Professional Development Inquiry Framework

A school leader must understand the foundations of a school culture in order to create, implement, guide, and sustain professional change. To understand the culture of St. Brendan Junior High (SBJH) required an examination of well-established and deep rooted traditions, rituals, values, and beliefs. As a high performing faith-based school with excellent academic achievement results, a strong athletics program, and successful with Sport and Fine Arts Academies, there was an overwhelming resistance to change. Many in the school community believed change was not needed based on several indicators, including current levels of student success based on both achievement test and school community survey results. The attitudes and beliefs of the school learning community required a shift, however, in order to mirror the school motto of 'bringing to light the best that we can become'. It became evident early on in the professional development inquiry planning process that not everyone in the learning community was ready to change, nor did they share the appetite for change. Professional learning within the community was typically characterized as "a variety of experiences related to an individual's work and is designed to improve practice and outcomes…and may be voluntary or mandatory, individual or collaborative, formal or informal" (Patton et al., 2015, p. 28). Traditional professional learning experiences of the school community were focused on the one-size-fits all type of workshops or sessions that were offered away from the school setting with a range of topics that appealed to a variety of interest areas but did not necessarily relate to teaching and student learning within our school setting. Professional learning occurred at predetermined periods of the time throughout the school year, and in many cases were prescribed in both

structure, duration, content focus, form and seemed to lack coherence in connecting with school or personal teacher goals.

While there are various kinds of learning that teachers are likely to engage in, Guskey (2002), points out that teachers are motivated to participate in professional learning when they are rewarded with improved student learning. Teachers also need to believe that professional development "will expand their knowledge, skills, and contribute to their growth, and enhance their effectiveness with students" (Guskey, 2002 p. 382). DiPaola and Hoy (2014) recognize that while teachers are responsible for their own professional development, teacher learning is highly affected by school culture and leadership which have an enormous impact on the environment. Hargreaves and Fullan (2012) view educational change and professional development as the responsibility of teachers, but acknowledge that teaching "needs reality to make it authentic and applied" (p. 132). Teaching and learning about teaching is most effectively achieved when professional development occurs in an environment that involves human, social, and decisional capital which is defined as professional capital by Hargreaves and Fullan (2012). In creating the professional development inquiry framework, and drawing on my understanding of theories of andragogy and effective professional learning, I realized that it needed to be flexible and allow for teachers to have the freedom to set their own professional development goals, determine what they needed to reach the goals and provide resources to support growth. These identified features were not only important foundational components of building and increasing professional capacity but also in gaining teacher trust and buy-in. Based on staff members' previous experiences combined with their negative views of professional development, I needed to move away from traditional forms of professional development to one in which teachers would not only be a part of the process to reorient and renovate their practice, but become major

stakeholders in the inquiry process. As teachers' foundational beliefs and approaches to both teaching and learning are constructed over time, endeavoring to change or improve the practice of deeply ingrained and long established habits can be a difficult task. Palmer suggests "good teaching comes from the identity and integrity of the teacher" which speaks to the very personal nature of teaching (p. 10). In order to affirm the effective aspects of a teacher's practice while simultaneously asking teachers to refine areas of practice that may require improvement, Gini-Newman and Case (2015) suggest that a renovation mindset approach be used. This renovation approach would build on the existing strengths and practices, allow for individual self-direction and collectively encourage community sharing and building of capacity (pp. 13-14).

In order to establish teachers' trust, and the validity of our instructional reforms, the first step in the change process was connecting the idea of teacher inquiry to sound research in the area of professional development. Research in the area of professional development suggests that achieving change in the area of instructional practice requires opportunities for professional learning that is grounded in social learning (Hord & Tobia, 2012), coherent (Desmoine, Porter, Garet, Yoon, & Birman, 2002), based on content matter (Garret, Porter, Desmoine, Birman, & Yoon, 2001), sustained over time, and is focused on self-identified areas of improved instructional practice (Gini-Newman & Case, 2015) consistent with theoretical understandings of adult learners. The aforementioned categories along with the principles presented by Gini-Newman and Case (2015) in *Creating Thinking Classrooms*, became tenets on which the inquiry framework was developed.

Phase One: Building a Professional Learning Community

To set the stage for the inquiry plan, there first needed to be a focus on reshaping the climate of professional inquiry. Gini-Newman and Case (2015) identify "a key facet of

improving teacher practice is the climate of collaborative inquiry" that focuses on teachers as self-directed learners within a community of peers who "inquire and reflect on shared goals, practices, and experiences" (pp. 240-241). The initial hope in creating a PLC was that there would be a collaborative approach to the sharing of knowledge, resources, and experience. Huffman (2000) defined these groups as, "a community of learners working together within a school to determine common vision, set goals and objectives, provide support, monitor progress, and adjust practices based on student and school needs" (p. 84). Establishing and nurturing a PLC became the most critical piece of the development of the framework as previous experience in COP by staff members were not successful. While the COP which was focused on Google Suite integration was initially created with the intentions that teachers would be willing to take risks, share their learning experiences, and have a willingness to add to the collective knowledge in order to enhance learning (Wegner, 1999), this idealistic vision of collaboration did not extend beyond the small group of teachers that were invested in the specific learning. The staff had a history of working in isolation or within department silos, so the shortcomings from their first experience with COP's had to be acknowledged, as did their gains in order to move forward. As a learning community we affirmed the things that went well and identified areas which required growth. In order for the inquiry framework to be successful, there needed to be a commitment to providing opportunities for staff to learn collaboratively. As the facilitator of the group, it became very important for me to understand learning communities, collaborative inquiry, and professional development in terms of school improvement, in order to support this group of adult learners within the dynamic school setting (Townsend & Adams, 2009). The plan to implement thinking classrooms at SBJH uses C3 thinking as the building blocks for sustained growth. Gini-Newman and Case (2015) note that "sustained growth includes conversations with colleagues,

creation of learning and assessment activities, access to professional resources, and classroom modeling" (p. 244). The intent of the plan in the beginning stages was to create opportunities for staff to learn, investigate, and discuss the concepts of C3 thinking. In order to help develop the strong working relationships that were necessary for change, there needed to be formal and informal opportunities both on and off-site that allowed for staff to begin to know each other on a more personal basis with the hope that this would lead to stronger collegial relationships, enhance trust, and provide a supportive environment. In order to help facilitate collegial relationships and trust building, using a Google form (Appendix A), staff were asked to identify areas that they would like to focus on in their classrooms and identify potential teaching partner(s) that they felt they could work with in order to build teaching capacity and practice. Dedicated time on a monthly basis was established and working groups which were directed and created by teachers were established. This became an important step as teachers were not only personally invested in the moving forward, they were also accountable to each other within this process.

Identifying Areas of Concern and Affirming Best Practices

As a leader, while I felt like I was the lone cheerleader for renovation at certain times, the process of involving colleagues, being transparent in the rationale for change, and linking the renovations to sound practice became the cornerstone of the transformational work that would undoubtedly lay ahead. Our school community of learners quickly realized that this framework was not just something we were just going to try, nor was it a magical solution, but rather a necessary journey of improving our professional practice and engaging in a thinking orientation (Gini-Newman & Case, 2015). We needed to commit to the process and take a leap of faith with convictions and strong demonstrations of moral grounding (Fullan, 2001).

Moving forward with any level of change could not occur without constructive and collegial dialogue. While not without its challenges, we had open, honest, and difficult conversations about best practice, and significant time was dedicated to getting to the root of identified problems or areas of frustration. As a group, we reviewed and connected the data analysis of both provincial achievement results with divisional and site based survey results in order to bring awareness and co-construct correlations between the effectiveness of current practices in order to deepen understanding. Staff were also tasked with examining the data, and to reflect on personal practice in relation to both divisional level goals and school level goals. The intent in this process was to anchor the proposed educational changes in sound pedagogical principles and data. Once a common focus was established, staff was then asked to translate their findings into meaningful modifications to their individual practice. Gini-Newman and Case (2015) refer to this approach as "sense making – navigating a myriad of changes whirling through education by identifying the ranges of uses that are best pursued…individually or as a staff" (p. 237). It also served as a way to naturally affirm the many practices that were successful and identify ways in which staff could continue to build upon incrementally overtime (Gini-Newman & Case, 2015). As a leader, the utilization of the "open to learning conversations" model by Robinson (2011) provided a way in which to have difficult conversations around current practice, while still maintaining relationships and communication. Using Gini-Newman and Case's three key elements for a responsive plan, the staff was able to "identify the focus for the renovation, launch the investigation around a series of interrelated inquires, and establish a plan for professional development" (p. 236).

Identifying Foundational Beliefs and Assumptions

In order to ensure coherence amongst the staff, the next step in the framework was to identify common practices and expectations that were held by teaching staff. In a collaborative floor to ceiling activity, staff were asked to identify and clarify current expectations and best teaching practices that were focused on the learning community's basic beliefs around teaching and learning (Appendix B). The staff was divided into several groups that included a variety of both grade and subject level teachers. They were asked to generate and write down their ideas onto a sticky note which would then be placed into one of these categories during a gallery walk:

1. Basic expectations – identify what every single teacher at SBJH should be and is expected to do in their teaching practice based on a teacher's professional code of conduct.
2. Meeting expectations – identify things that go beyond the basic expectations of a SBJH teacher in regards to professionalism, instruction, and learning.
3. Exceeding expectations – identify the sorts of things which clearly demonstrate that an SBJH teacher is going above and beyond the obligations of professional practice in regards to instruction and learning.

The gallery walks, that followed the sticky note activity, provided staff with the opportunity for a variety of approaches to their own learning. The movement allowed for social interaction, there was discussion in regards to what elements of teaching and learning fit into each of the categories and some debate about the validity of the expectations. The activity was rich for a variety of reasons and as a result of the construct, as a PLC, we were able to identify basic beliefs about teaching and learning in order to affirm what is currently being done that effectively supported critical thinking classrooms. This process was significant as it set "school

site standards and expectations that builds a community of teachers and learners who are working together for a common goal" (Darling-Hammond, 1997, p. 204). Additionally, the process allowed for our school community to take a hard look at collective and individual practices with a critically reflective lens so that the plethora of school practices that were long held and encrusted in culture could be assessed based on their current impact on the ways in which teachers and students learn today (Barth, 2002). Furthermore, the practice of continually revisiting the expectations allowed us to document the growth in our own beliefs and practices that began to shape professional identities and teaching pedagogy as the learning community went through the inquiry process (Appendix C).

Fostering Professional Dialogue

Collaboration is certainly not easy and requires both dedication and a commitment by everyone involved in order to become successful. Effective collaboration also requires and demands an awareness of the interpersonal dimensions of joint work, one's own needs, and the awareness of the needs of others (Townsend & Adams, 2009). While collaboration with others is an intrinsic component of PLC's, opening up and allowing one self to become vulnerable requires direction, guidelines, and affirmations. Attending to teachers' professional growth and changing school cultures requires that teachers engage in the process of learning by sharing with others and using collective knowledge to solve identified challenges (Hargreaves, 2003). The collaborative interactions of a PLC enables learners to solve problems, develop understanding through dialogue, and use communications to transform best practice (Driscoll, 2000). In developing the inquiry framework, we spent a substantial amount of time on team building activities which were aimed at facilitating collegial trust and enhancing mutual respect. Townsend and Adams (2009) highlight the importance of trust and respect in collaborative

inquiry stating “without trust and respect, educators will not enter into the kinds of collaborations that are most likely to enhance professional practice and contribute most to school and district improvement” (p. 4). Two specific models of communication that were introduced to staff were cognitive coaching and generative dialogue. We recognized that while they differed in approach, both models provided opportunity for dialogue that ultimately led to the actualization of either individual or group critical reflection of the learning process. Staff were able to learn and employ a variety of newly acquired communication skills to help make conversations more meaningful. The newly defined ways of communicating with a focus on renovation efforts allowed teachers to converse in order to increase their understanding of concepts, instruction, theory, and practice specific to the identified areas of growth.

Developing a Common Language and Building Capacity in C3 Thinking

It was paramount that we placed thinking at the heart of every decision or initiative for both staff and students in order to establish a thinking orientation for our classrooms. The starting point was identifying the things that the school community was already doing that fit into C3 thinking. The floor to ceiling document that recorded these things was a living document that we refined over time, and reexamined often to ensure that the expectations, vision, and goals aligned with the renovations that occurred. I hoped that as the staff went through the learning process and deepened their understanding, their expectations would be refined and eventually include aspirations. While the changes and areas of growth were specific to the individual, the document created the common expectations, goals, and vision that were consistent regardless of the individually identified areas of growth. An additional purpose that the expectation document served was that it grounded the learning community in the established goals rather than focusing on the plethora of initiatives or challenges that were presented as reform movements aimed at

21st century learning principles. Furthermore, the floor to ceiling document provided visual confirmation of teaching strengths that existed, and that staff were working shoulder-to-shoulder to build upon. The small changes and revisions that occurred over the course of the inquiry were documented as pieces of the journey.

The next step in the inquiry process was to develop a common language at the school through a co-constructed building of the definition of C3 thinking concepts. The staff explored, learned, discussed, and agreed upon the following concepts:

- Expectations for Thinking,
- Routines that Support Thinking, and
- Foster Personal Interactions that nurture thinking.

The focus of the collaborative inquiry groups centered on the inquiry questions created on the agreed upon definitions in relation to the concept of affirming and refining ideas. The focus in creating a thinking orientation is to invigorate existing practices to ensure that they align with our agreed upon guiding principles of sound teaching and learning. With a large staff of over 30 teachers whose experience ranges from first year teachers to teachers who are nearing retirement, the diverse practices that exist in the school may not always be consistent with one another. Anchoring basic beliefs and verbalizing a common language allows the learning community to have a common footing that still provides opportunity for individual nuances. Gini-Newman and Case (2015) share that in a thinking environment while "collaboration is a fundamental engine to thinking…the intention is to learn from others but not be limited by the views of others" (pp. 58-59).

Re-orientation and Moving Forward

As implementation of C3 thinking moved forward, I relied heavily on the visual image of the four-faucet approach to implementation of a thinking classroom (see Figure 1). The conceptual framework provided the resource that would often be referred back to as we moved forward with creating a C3 thinking environment for both staff and students. The application of thinking principles which would build the foundation for staff to move forward as the lead thinkers in their own classroom slowly began to take shape. Intensive early professional development that was consistent, and focused on the application of C3 thinking knowledge that could readily be put into practice was a key component of this first phase. It was incredibly important for this framework not to be viewed as an add-on but rather as a way in which to anchor all of what was being done.

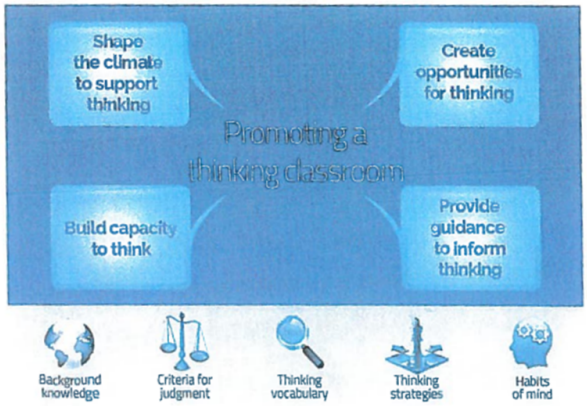

Figure 1. A framework for implementing a thinking classroom.

The first area of emphasis was shaping a physical environment to support thinking. While the school is limited by the traditional infrastructure that is in place, teachers were challenged with modifying their existing classroom configuration so that the arrangement would more effectively support C3 thinking. In order to share in the learning, our administrative team also changed the physical environment of staff meetings and encouraged feedback from teachers on

the configurations that they felt provided a working environment that enabled greater discussion. Through shared learning experiences and feedback, staff were able to not only change the physical environment, but also change the way in which they used the space and approached their own practice. Gini-Newman and Case (2015) note that "class arrangement sends a message to students about the way in which they are expected to learn" (p. 65), I would further extend this notion to include, that it also sends an implicit message in the way in which one will teach. A classroom that is configured with many areas that promotes engagement requires teacher movement and allows for various forms of personal interaction between teacher and students, teacher and student, or student and student.

In addition to changing the physical environment, teachers were asked to model a variation of the floor to ceiling exercise with their own classrooms in order to establish norms for student intellectual expectations. Similar to the typical beginning of the year routines that clearly state what is expected of students in regards to behavior and work expectations, staff were asked to also work with students to establish clear expectations for thinking and identify classroom routines that would focus on thinking. A common thinking vocabulary was established within the school for both teachers and students so that a shift in a thinking orientation would become habitual (Gini-Newman & Case, 2015).

Finally, staff was invited to problematize the curriculum through "questions or tasks that challenge students to reflect thoughtfully about and with the curriculum content and skills" (Gini-Newman & Case, 2015, p. 68). While this initially seemed daunting, the focus was on making simple yet significant refinements to the types of questions and tasks that were currently being used by teachers. This required collaborative work to ensure that the types of questions and tasks that were being used were modified so that students were "expected to go beyond locating

facts or espousing a personal preference…not merely reporting on what they know or like but judging or assessing possibilities in light of criteria with the aim of reaching a reasoned response" (Gini-Newman & Case, 2015, p. 69).

Involving staff to become active learners and share their collective knowledge through PLC opportunities encouraged much more meaningful discussions and visible changes in practice. The collaborative approach and ensuring that teachers did not feel overwhelmed as we began with the implementation of the four facets of the framework were important parts of the inquiry framework. Much of the early work focused on refining practice in only one or two of the four facet areas i.e., creating a physical environment, and then aspiring to work up to refinements in other areas. Through the sharing of experience and continual staff commitment to growth, a thinking orientation was adopted and became visible in both the learning space and the approach to teaching and learning by administration, teachers, and students.

Phase Two: Targeted Professional Development on the Guiding Principles

The first phase of the C3 inquiry framework creates the foundation from which the five guiding principles (engage students, sustain inquiry, nurture self-regulated learners, create assessment-rich learning, enhance learning through digital technology) of C3 thinking could grow (Gini-Newman & Case, 2015). The second phase of the inquiry framework focuses on utilizing dedicated PLC and school based PD time to build staff capacity around the five guiding principles of teaching for C3 thinking, and provides opportunity for the PLC to identify tools, examples, discussions topics, and staff challenges which focus on each of the principles. The scaffolded approach to the introduction of the guiding principles allows for extended professional support, continuous inquiry, and time to build the guiding principle into educational practice. Additionally, this approach allows staff to see and reflect on how each of the principles

align with their own current practices and the overarching school focus on C3 thinking (Gini-Newman & Case, 2015).

An equally important component of this phase of the framework is how the information on each of the guiding principles is shared and developed with staff. It is imperative that a thinking approach is modelling and that the information is not perceived by teachers as "how things can be done…but rather awakening them to the new possibilities of how they might choose to do things" (Gini-Newman & Case, 2015, p. 242). Research suggests that the most effective professional learning for adults occurs when there is dedicated time to work with others to inquire, reflect, synthesize findings, collaboratively generate knowledge, and share both successes and failures (Darling-Hammond, 1997; Desimone et.al., 2002; Hargreaves & Fullan, 2012; Patton et al., 2015). During this particular phase there were social, structural, and fiscal factors that needed to be considered in order to support teacher's learning. Socially, the ground work in creating a climate of collaboration required continual nurturing so that an atmosphere of trust, expectation, desired behaviors, and internal accountability would be maintained by the educators themselves. Structurally, the inquiry framework challenges traditional professional settings as it requires creating a learning space where professional conversations and interactions can occur to facilitate meaningful dialogue. In many cases, this requires a re-arrangement of the physical space as well as the routines that may exist in order to create the desired outcome of collective inquiry. Finally, in order to support professional inquiry, teachers require opportunities and resources to investigate their teaching practices. A commitment to comprehensive supports including tangible resources, intellectual tools, and time to collaborate requires a financial commitment to ensure that systemic change can occur.

Phase Three: Collaborative Sharing

Looking ahead, the final stage of the inquiry framework will be to productively engage teachers in building their collective capacity. The inquiry framework differs from most professional learning models as there is a continuum of learning rather than a finite end. In addition to continuous learning, what this model does is provide an opportunity for teacher leadership and the potential for serious pedagogy focused conversations resulting in capacity building. Tapping into the expertise at the school level provides staff with a voice in decision-making, acknowledges the importance of community, invigorates a staff's willingness to lead and more importantly offers an opportunity for staff to shine (Timperley, 2011).

As active learners, teachers are in the driver's seat of their own self-identified areas of professional development, consistent with no shared understandings of and commitment to teaching for C3 thinking. Teachers are able to engage in a variety of learning experiences ranging from the creation of concrete tasks, peer observation and feedback, self-reflection to collaboration, group discussion, and collective resource sharing. The most important component of phase three is the sharing and critical discourse that is essential to community building and goal attainment within the principles of C3 thinking.

Conclusion

Fullan (2001) asserts that "change is a double-edged sword. Its relentless pace these days runs us off our feet" (p. 1). I began this three-year journey of creating thinking classrooms with a zeal for what lay ahead, excited about the possibility of change, and eager for the anticipated positive effects that the professional inquiry framework would ultimately have on both students, teachers, and the process of modern learning. This zest as Fullan eloquently articulates was slightly diminished by the toll that the rollercoaster of emotions of a project which I had a

personal investment in had on me, combined with the pace and reality of work that lay ahead and still remains in many ways. Though at times I became a weary traveler in the quest for change, I realized that perhaps my spirits were dampened by the realization that this journey did not necessarily have a destination or clear endpoint, as change oftentimes continues to lead to change in another shape or form. Regardless, the lessons learned along the journey have been plentiful and ultimately have been the impetus in continuing to grow in my leadership practice and encouraging others in their own professional inquiry as a result of the framework.

The design and the research that has become an integral part of the creation of the framework demonstrates a shift in my thinking over the course of the last five years. The concept of using an inquiry framework to encourage C3 thinking was an idea that really came out of the work in my Master of Education classes and cohort discussions focused on the work by authors Gini-Newman and Case nearly five years ago.

The ambition of creating a comprehensive inquiry framework (Appendix E) changed and evolved several times over the course of the last couple of years. Many of my initial assumptions in originally creating the plan were refined as the PLC went through the various stages of the inquiry. At each stage of the process, I experienced a greater understanding of the complexities associated with a collaborative approach to professional development, the daunting task of balancing the need for teacher growth with the push for renovation, and the discipline required to not to turn to 'quick-fix solutions' in order to improve student learning.

As the staff took the initial step of renovating their practice through the inquiry framework, there were certainly many instances where there was cause for celebration through the identification of strengths, moments of reflective pause, and the identification of areas that required growth. The greatest strength of the staff was their trust in the process even though at

times it was fledging and required frequent affirmations as they found their stride. Throughout the three-year process, the staff remained largely committed to the inquiry process and were unfailing in their accountability to one another. Reflective pause came at various times in the process and surfaced in a variety of ways. At the early onset of the inquiry, many teachers questioned various aspects associated with professional development including the level of support they would receive in partaking in this type of learning, how they might be supported with resources (human, intellectual, physical, emotional), the level of commitment required, and more importantly what would happen if they failed to meet established goals. As we advanced through the phases in the renovation process, reflection moved away from one which was apprehensive or trust centered to a focus on shared goals, improving practice, and enhancing learning experiences for both educators and students. Through the communities of inquiry that eventually organically developed, staff were able to work with colleagues to facilitate growth in teaching practice through a shared learning experience. Through the groups and partnerships that developed staff were able to share their expertise and findings with the larger collective group and a culture of inquiry quickly took form. While there were a few staff members who were late adopters of the inquiry framework, the accountability to colleagues became the impetus for their adoption of the professional development inquiry. These late adopters were at times reluctant participants and in some cases their inability to be open to renovation led to an adjustment in their teaching placement. For example, one staff member elected to retire. While the majority of teachers were unsure of what the inquiry would ultimately mean, they were willing and motivated to embark on invigorating their professional practice. As I have reflected back on the entirety of the project, I was never able to put my finger on why there were so many staff members who immediately bought into the idea of C3 thinking. I would like to think it was a

combination of the realization that educational change is not a terrible thing and that the world that we live in and the way in which we navigate learning has evolved as has the modern teacher and learner. Coincidentally, as we engaged in this inquiry framework the government of Alberta continued to work on developing a new provincial curriculum that focuses on linking subject specific curricular outcomes with competencies such as creativity, collaboration, and critical thinking as essential components of teaching and learning (Alberta Education, 2017). Regardless of the stimulus to embark on change, the decision to move forward by the staff has, and will continue to be, the most instrumental factor in the success of the inquiry framework.

Throughout the planning, revising, and implementation stages of the framework, I found myself making many adjustments based on assumptions I had mistakenly made. The most surprising area within the framework that required much more time, professional learning, and practice was the development of professional dialogue. A variety of professional development opportunities and formats, along with resources (contextual, physical and structural) were put into effect in order to help facilitate constructive professional conversation and feedback. One would think that teachers talking about teaching was something that would occur naturally, however, the vulnerability in reflecting on personal practice became a stumbling block to the open dialogue that was an integral and necessary part of the framework. Trust building exercises and collaborative learning activities were developed with staff input in order to cultivate authentic collegial relationships that were rooted in dialogue (Appendix D). As staff learned about reflective practice and established trusting relationships, we were able to move forward with the necessary tools in order to revise practices and pursue both individual and group goals. As a result of the time that was dedicated to the process of learning how to engage in dialogue and how to listen within a conversation, the staff felt empowered. The importance that this early

learning had on creating a culture of collaboration was integral to challenging the established norms of personal and professional privacy in order to create a school culture in which staff was able to take risks in front of their colleagues and the administrative team without fear of being judged (Bryk & Schneider, 2003). As a result of the growth within this area, many staff have shared their experiences and have taken on leadership roles with groups or mentored new staff members who require guidance, expertise, or feedback. This willingness to openly engage and learn from one another and the level of richness of the dialogue focused around teaching and learning has been a fortunate and unexpected by-product of the professional development inquiry framework.

As with any sort of systemic change, there was an anticipated implementation dip that occurred as the initial enthusiasm faded and the demands and stress of teaching did not always allow for adherence to the established group norms and goals (Fullan, 2001). It was during this time that late adopters and naysayers could have easily influenced the potential success of the inquiry framework by reverting back to the old ways or finding the silver bullet solution instead of trusting in the process (Gini-Newman & Case, 2015). In response, the administrative team consulted with teaching teams whose feedback initiated a change in the timetable and teaching schedules that would allow for additional dedicated time for collegial discourse, and reaffirmed with staff the things that were going well by identifying the areas of growth which had already taken shape. This was also the time when we looked at the supports that were in place and evaluated the ways in which we might scaffold learning and expectations to ensure greater success in providing comprehensive resources. Gini-Newman and Case (2015) echo the importance of teachers feeling "supported confidently and effectively to acquire and use the requisite tools to make sense of initiatives they are intending to adopt. Feedback related to

progress…is one of the five most powerful factors supporting learning" (p. 239). Ensuring that staff had a voice and was able to provide input into the process was a very important aspect of the framework. As we moved into each successive phase of the framework, there was a consistency in what would occur within the scope of our school and the expectations our learning community had in working towards both our individual and shared goals. Each working session in the framework began with revisiting the shared goals and practices to affirm what was working, and discussing refinements that individuals or collaborative groups were exploring through self-directed learning. They culminated with the sharing of resources, modifications or refinements to practice, and the sharing of progress within the inquiry process. The comfort in the routine of the framework, the community building and discourse along with the flexibility for adult learners have been important elements of the design which have encouraged and promoted professional growth.

Even though there has been much growth as a result of the renovation mindset that has been adopted by the staff at SBJH, there were certainly challenges and considerations that I had overlooked in creating the framework. The most impactful was the task of integrating new staff into a well-established professional development inquiry. While the framework does encourage and provide self-directed inquiry, much of the foundational work in developing staff capacity around C3 thinking occurred in the early stages of the inquiry. The inquiry question that has emerged asks how we ensure new staff members have a strong understanding of C3 thinking in order to be successful learners in our professional development inquiry. As a staff, we developed cohorts of expertise within the foundational beliefs of C3 thinking, and these groups would work with the new staff member to build capacity as well as community. In this setting, there was a mutually beneficial relationship that developed and the end result was a strengthening of

collegial relationships and opportunities of teacher leadership. Barth (2004) alluded to the importance of leadership and professional development intersecting stating that "a powerful relationship exists between learning and leading. The most salient learning for most of us comes when we don't know how to do it, when we want to know how to do it, and when our responsibility for doing it will affect the lives of many others" (p. 81). Providing teachers with the opportunity to assume responsibility for leading in C3 thinking has resulted in greater participation, deeper understanding of guiding principles to C3 thinking, and a renewed commitment in carrying out both school and individual goals.

My hope is that what I have accomplished in my degree and in the creation of this professional development inquiry framework is a resource that will benefit learning communities as a whole. I recognize that there is room for potential changes that could occur over time and that the work involved in such a framework of inquiry may not be welcomed by all. However, given the changing educational climate and the calls to renovation by both educators and modern learners alike, perhaps the framework of professional inquiry will provide a springboard into meeting these challenges. The research that has gone into the design of the framework has solidified for me the importance revisiting foundational beliefs around teaching and learning, rethinking, refining and continuing to invigorate practice based on sound pedagogical principles.

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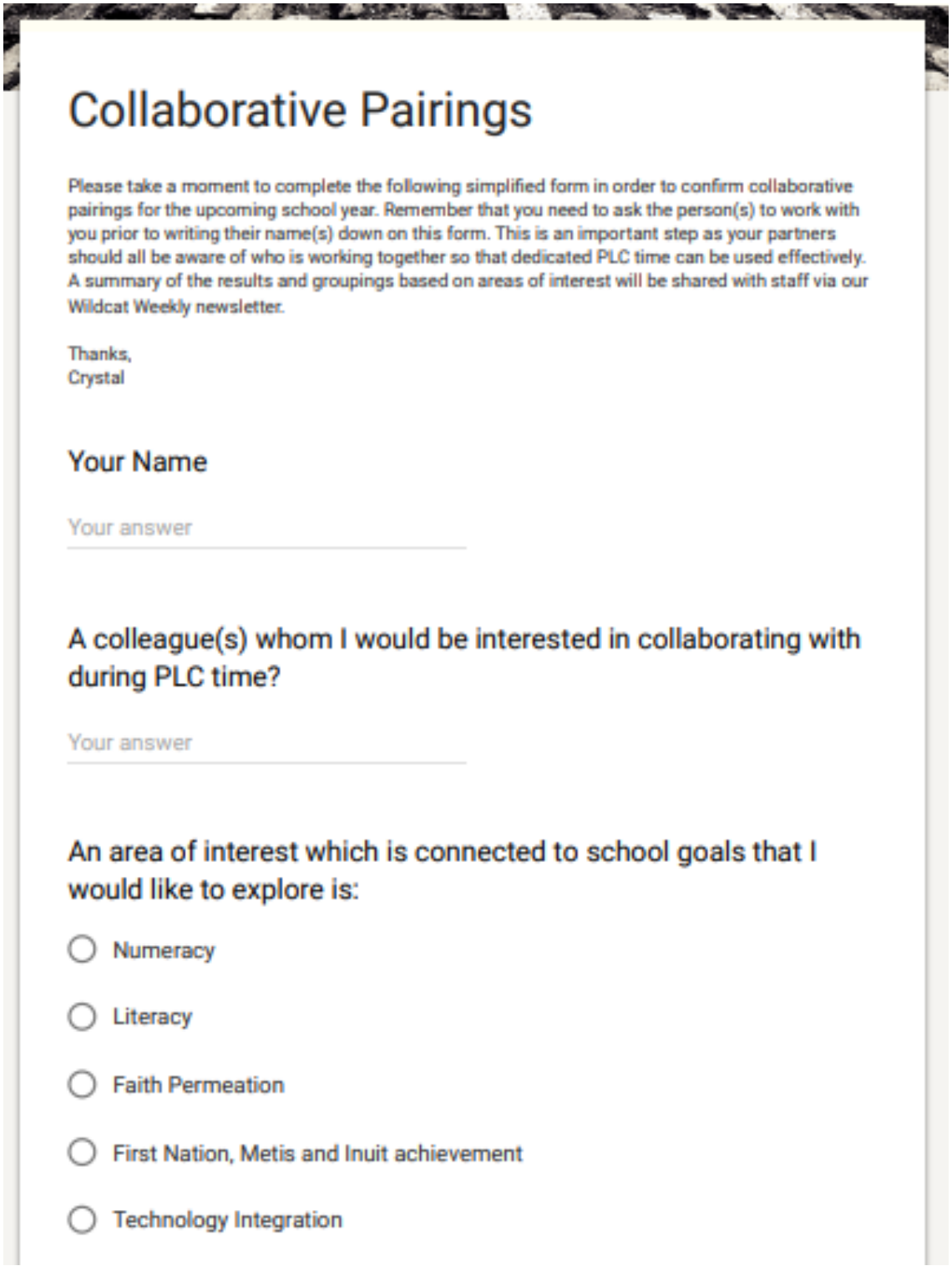
Appendix A: Staff Survey



Collaborative Pairings

Please take a moment to complete the following simplified form in order to confirm collaborative pairings for the upcoming school year. Remember that you need to ask the person(s) to work with you prior to writing their name(s) down on this form. This is an important step as your partners should all be aware of who is working together so that dedicated PLC time can be used effectively. A summary of the results and groupings based on areas of interest will be shared with staff via our Wildcat Weekly newsletter.

Thanks,
Crystal

Your Name

Your answer

A colleague(s) whom I would be interested in collaborating with during PLC time?

Your answer

An area of interest which is connected to school goals that I would like to explore is:

- ○ Numeracy
- ○ Literacy
- ○ Faith Permeation
- ○ First Nation, Metis and Inuit achievement
- ○ Technology Integration

Appendix B: Floor to Ceiling Expectations

SBJH Floor to Ceiling Basic Expectations for Teaching (2017)

1. Entering marks and assignment comments in Powerschool in a timely manner
2. Collecting forms and communicating with the office
3. Attend to injuries and file out an accident report form
4. Follow Curriculum
5. Daily Class Attendance
6. Take care of minor discipline, classroom management
7. Be prompt for supervision
8. Report cards
9. Lesson, unit and year plans
10. Professional development
11. Covering and reporting on the KSA
12. Owning and communicating your teacher office hours.
13. Advocacy for students
14. Communication with home- email, phone, remind 101, Powerschool marks
15. Know everyone's name
16. Differentiate
17. Respect, friendly, encouraging, organized, adaptable
18. Complete ISP's and update them
19. Update teacher webpages weekly, reading emails and attending meetings
20. Asking where you can help in co-curricular time
21. Seating plans
22. Prayer (start the day and period 4) and reviewing announcements
23. State student and class expectations- establish routines
24. Model what is expected
25. Build understanding
26. Student success
27. Provide unique opportunities for students
28. Respond to colleague emails
29. Reflect on teaching
30. Let students know how they are being assessed
31. Continuous and anecdotal feedback.
32. Differentiated tasks and assessment
33. Short term and long term goals
34. Not booking the computer labs, chromebooks and laptops for weeks on end
35. Returning the technology to right place (signing it out to students
36. Review of previous lesson before moving on and constant checking of understanding
37. Brain breaks in classes
38. Collaborative learning
39. Allowances made for individual needs
40. Hold students accountable to clean their spaces

SBJH Mid- Level Expectations for Teaching (2017)

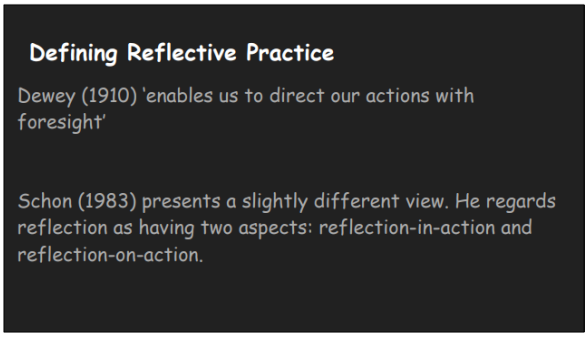
1. Sponge activities
2. Collaborate with colleagues
3. Field trips, retreats and instructional activities
4. Collaboration with colleagues outside the building
5. Permeation of faith
6. Variety of assessments
7. Reinforce positive relationships, knowing background of students
8. Engage, collaborate
9. Committee work
10. Keep students engaged
11. Teach life skill/teachable moments
12. Homeroom school spirit
13. Purchase items for your classroom
14. Listen to student input
15. Lunch hour or after school tutoring, be available for student help
16. Continued learning
17. Plan fun activities, extracurricular
18. Scaffolding of lessons
19. Learning objectives posted
20. Exemplars for students to view
21. Groups and pods replace stand and deliver
22. Ongoing formative assessment
23. On task behavior- 100% students engaged
24. Laughter and enthusiasm about material
25. Fewer assessment, but more effective
26. Teacher takes care of most discipline in class
27. Authentic comments in Powerschool and report cards

Appendix C: Revised C3 Thinking Expectations

SBJH Floor to Ceiling Level Expectations for Teaching and Learning (2019)

- Model, teach, facilitate and encourage students to problem solve - think critically
- Model how to "think" for students and allow opportunities for students to think for themselves
- Clearly define expectations for thinking and stick to routines that support thinking
- Allow and provide opportunities for students to create and make mistakes
- Applying research to the classroom
- Learning and teaching by using multiple modalities
- Integrate subject areas
- Lifelong learning through professional development – be an active participant
- Relate content to real life
- Incorporate and encourage student choice
- Create new options
- Regular and consistent communication with learning community (blogs and webpages)
- Keep up with technology and use technology to enhance learning (teaching tool)
- Building resilience in students
- Share successful practices with colleagues as part of PLC to build capacity and resources
- Participate in staff wellness activities
- Inspire and celebrate creativity
- Adapt and renovate through self-reflection
- Provide timely feedback on assessment
- Faith permeation through all our subjects.
- Extension of learning opportunities
- Relevant use of graphic organization materials
- Higher level questioning activities
- Communicating the WHY to students
- Problem based learning and student collaboration
- Cross curricular activities with other teachers
- Connecting with students outside of school (school or work)
- Seating arrangements conducive to collaboration and thinking

Appendix D: Staff Developed Resource on C3 Practices



The term 'reflective practice' derives from the work of Dewey and Schon.

Dewey (1910, p.6) wrote that reflective practice refers to 'the active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it'. This means that you will have a questioning approach; you will consider why things are as they are, and how they might be.Dewey went on to say that being reflective 'enables us to direct our actions with foresight …

Reflection-in-action refers to the quick thinking and reaction that occur as you are doing, for example in the classroom you may be teaching a topic which you can see the pupils are not understanding. Your reflection-in-action allows you to see this, consider why it is happening, and respond by doing it differently. This could involve reframing your explanation or approaching the topic from a different perspective.

Reflection-on-action is what occurs outside the classroom when you consider the situation again. You may think more deeply about why the pupils did not understand, what caused the situation, what options were open to you, why you chose one option and not another. Your responses will depend on your existing level of knowledge and experience, your understanding of theories and your values

A short Introduction - a little refresher to remind, inform and make us think!.
Key themes: Every teacher needs to get better!

Shoulder partner activity - What quote resonated with you? What might be some roadblocks to reflective practice?

PROFESSIONAL CONVERSATIONS

What do teachers talk about?

How do they talk about it?

How do such conversations impact practice?

The key is to develop a shared language for talking about practice (Desimone, 2011; Gibbons & Cobb, 2015).

Professional Conversations and Learning

- **Examine student work**.
  - Look at how students responded to a task (Little, Gearhart, Curry, & Kafka, 2003);
- Co-plan instruction.
  - Work with other teachers to identify instructional tasks and develop ways to assess student understanding (Smith, Bill, & Hughes, 2008);
- **View video recordings of teaching**.
  - Share and discuss excerpts of classroom videos (Sherin & van Es, 2003);
- **Engage in lesson study.**
  - Plan a lesson together and experience the enactment (Fernandez & Yoshida, 2004; Higgins, 2013);
- **Engage in instructional Observations**.
  - Visit and observe other teachers' classrooms (City, Elmore, Fiarman, & Teitel, 2009);
- **Receive follow-up support in classrooms.**
  - Get one-on one assistance in classrooms to implement what teachers have learned (e.g. through co-teaching) (West & Cameron, 2013).

The Process of Reflection and Dialogue

1. Each participant would both observe and be observed – Teachers would work in pairs and take turns observing each other's classes.

2. Pre-observation orientation session – Prior to the classroom visit, the two teachers would meet to discuss the nature of the class to be observed

3. The observation –The observer would then visit his or her partner's class and complete the observation using the procedures that both partners had agreed on.

4. Post-observation: The two teachers would meet as soon as possible after the lesson. The observer would report on the information that had been collected and discuss it with the teacher (Richards and Lockhart, 1991).

Peer Collaboration – Peer collaboration can provide opportunities for teachers to view each other's teaching in order to expose them to different teaching styles and to provide opportunities for critical reflection on their own teaching.

2. Pre-observation orientation session – Prior to each observation, the two teachers would meet to discuss the nature of the class to be observed, the kind of material being taught, the teachers' approach to teaching, the kinds of students in the class, typical patterns of interaction and class participation, and any problems that might be expected. The teacher being observed would also assign the observer a goal for the observation and a task to accomplish. The task would involve collecting information about some aspect of the lesson, but would not include any evaluation of the lesson. Observation procedures or instruments to be used would be agreed upon during this session and a schedule for the observations arranged.

EFFECTIVE COLLABORATION

TRUST

For effective collaboration to occur, there must be trust. Trust and willingness to grow will be the two most important components to reaffirming what we do that is great and adjusting our practice so that we move forward together.

Appendix E: Professional Development Inquiry Plan: Fostering C3 Thinking

Overarching Inquiry Question:
How can one cultivate a renovation mindset in order to support and create thinking classrooms throughout a school over a three phase implementation period of time using an inquiry approach to teaching and learning?

Critical Three Phase Challenge:
To utilize the four faceted approach of implementation and embody the five guiding principles to best implement thinking classrooms in order to deepen understanding, develop staff competencies and genuine commitments towards refining teaching pedagogy. Identifying the practices that might be affirmed, refined, or aspired to in order to nurture a thinking classroom. The collaborative list, a variety of resources, and working within a Community of Practice (COP) set out to implement aspects of critical, creative and collaborative (C3) thinking and inquiry into daily lessons.

Phase One

Inquiry Question: What aspects of creating thinking classrooms are most relevant to our current context?

Critical Challenge: Creating a common language for the whole staff to identify with and understand. The focus will be on working definitions of collaboration, creative, critical thinking, engagement, deep understanding and inquiry.

Educational Goal: Build staff capacity by creating a PLC and collaborative groups in order to discuss literature, concepts and application related to creating thinking classrooms.

Pedagogical Focus: Evaluate current teaching practice and analyze data gathering to show the effectiveness of current practices. Look at how the two are related and affirm what is already being done.

Timeline	Activity
Stage One	**<u>Background Knowledge</u>** Review and connect to data analysis to co-construct correlations between the effectiveness of current practices in order to deepen understanding and begin that conversation of renovation. Further examine how the data and practice relates to what is being implemented at the divisional level in the Divisional Three Year Goals and at the school level through the School Continuous Improvement Plan. When introducing the C3 thinking framework ensure that there is a connection to the teacher and provide sound research that provides the rational for why the learning community should buy into this approach and how embarking on a C3 approach will positively impact the learning community as a whole. The intent in this introductory activity is to anchor the proposed educational changes in sound pedagogical principles and data. Provide a list sample of initiatives over the course of the last 10 years and demonstrate how these

	initiatives are actually slogans by definition. Share a narrative from C3 Thinking that links to this (page 4). Use this as a conversation piece amongst the PLC. • Question 1: What might be some additional initiatives that the groups can come up with that have fallen under the umbrella of 21st century instructional change? • Questions 2: What were important features of each of the identified initiatives? What worked, what didn't – why? It will be important to affirm the many practices that are successful and identify ways in which staff can continue to build upon incrementally overtime (Gini-Newman & Case, 2015). Ensuring that the proposed education changes take a renovation mindset will be important as we look to revise current structures based on a staff identified area of need. The anticipated result of this introductory activity is to target key areas of concern, collectively develop solutions and recommend possible changes (C3 Thinking) through open and honest conversations centered around what is best for student learning (Elmore, 2005). **<u>Connections to Scholarly Work:</u>** *(professional literature to support the teaching and learning which can be shared with staff to build competency and shared resources)* C3 Thinking focusing on the rational relating to why this approach is necessary. (Gini-Newman & Case, 2015) Darling-Hammond, L. (2008) Powerful learning: What we know about teaching for understanding. San Francisco, CA: Jossey-Bass. • Teaching for Understanding and the principles that guide this: Active: in depth learning, opportunities for collaboration, attention to prior knowledge, experience, and development. • Page 205 – Develop a professional community by using collaboration as a tool to for critical self-reflection on practice and provide and get feedback from others. • Developing coherence from classroom to classroom (common goals for learning, a shared mission
	Identifying Foundational Beliefs and Assumptions Identify common practices and expectations of staff (Teachers, Educational Assistance) through a floor to ceiling exercise. The collaborative activity will identify and clarify current expectations / practice as well as build coherence amongst the diverse practices that exist. Through this construct, as a PLC we will be able to identify basic beliefs about teaching and learning in order to affirm what is currently being done that effectively supports critical thinking classrooms. The focus of the activity is to answer the following two questions: a.) What are our fundamental beliefs about teaching? b.) What are our fundamental beliefs about learning?

	<u>Floor to Ceiling Activity:</u> Materials: sticky notes, markers, poster paper, ATA Code of conduct, Teacher Quality Standards 1. Divide staff into several groups and provide each group with a variety of sticky notes. 2. Ask staff to work collaboratively to develop basic assumptions around teaching and learning by answering the following questions – identify what every single teacher at SFJH should be and is expected to do in their teaching practice based on a teacher's professional code of conduct. – identify things that go beyond the basic expectations of a SFJH teacher in regards to professionalism, instruction and learning. – identify the sorts of things which clearly demonstrate that an SFJH teacher is going above and beyond the obligations of professional practice in regards to instruction and learning. 3. Once the staff has completed generating their ideas, the sticky notes are to be placed into the three categories of basic, meeting and exceeding 4. After all of the sticky notes are placed on the poster boards which are placed in various locations around the learning space, invite staff to do a gallery walk. Provide opportunity to move sticky notes or discuss the ideas that were generated. 5. Generate a digital copy of the expectations that were created by staff and ask staff to highlight think about what expectations we will be using with each other as we move forward with our work on C3 Thinking. 6. The goals will be revisited each time we meet collectively and are open to revisions / edits along the learning journey. **<u>Connection to Scholarly Work:</u>** Working with Staff to make Assumptions about teaching / learning / expectations explicit (Brookfield, 1987) and Critical Reflection (Schon 1983) Cranton, P. (1994). Understanding and promoting transformative learning: A guide for educators of adults. San Francisco, CA: Jossey Bass. Knowles, M. (1980). The modern practice of adult education: Andragogy versus pedagogy. Englewood Cliffs, NJ: Cambridge Adult Education. Adult Learning Assumptions • The need to know, learner self-concept, role of the learners' experience, readiness to learn, orientation to learning. • Provide alternatives to one-way dissemination of information
	Foster Professional Interaction and Dialogue Build collaborative inquiry groups that will work initially around conversations centered on 'teaching practice'. These groupings will provide opportunities for staff to commit to investigate their practice by "exploring and answering a compelling question…followed by a cycle of examination, experimentation,

	exploration, and public reflection" (Townsend & Adams, 2015, p. 43). Staff would be called to engage in observation and professional dialogue in order to build upon John Hattie's idea of 'talking more about teaching' (Hattie, 2012). In creating these communities of inquiry staff will be able to work with their peers to investigate and reflect on school goals, current practices and individual and collective experiences (Gini-Newman & Case, 2015). Initial activities need to be focused on trust building exercises to help facilitate collegial relationships. Much of the work that teachers do is in the isolation of their classrooms and in order to collaboration and reflective practice to be meaningful there needs to be a mutually trusting relationship where individuals are willing to be vulnerable in their professional practice. Provide staff with professional learning around the expectations of professional dialogue and model what this might look like for staff. Possible resources in this area include learning around generative dialogue or cognitive coaching. Provide several different approaches that could be used as well as a script or outline that keeps dialogue focused on practice and linked to critical reflective practice. **Connection to Scholarly Work:** Townsend, D., & Adams, P. (2009). The essential equation: A handbook for school improvement. Calgary, AB: Detslig Enterprises Ltd - Growth experience must include trust, respect, support, authenticity and negotiation. - Focus on evidence based responsibility rather than document based accountability (p. 93) - Inquiry model that focuses on "the value of collaborative opportunities for guided conversations and sense making to encourage action." (p. 94). Collaborative Inquiry (Chapter 3) - Effective professional inquiry is most likely to occur when teams form relationships based on trust and interdependence, and when participants bring with them effective communication skills and a common language for conversations. (p. 43) - Focus on building collegial trust and collaboration with targeted exercises. Barriers to Professional Development and approaches to traditional Professional development (Chapter 5) Palmer, P. (1998). The courage to teach. San Francisco, CA: Jossey-Bass. - The growth of any crafts depends on shared practice and honest dialogue among the people who do it (p. 144) - Good talk about good teaching is what we need – to enhance both our professional practice and selfhood from which it comes. - Rules of Dialogue

	Revisit Floor to Ceiling Expectations – affirmations and refinements Identifying the things that our school community is already doing that fit into C3 thinking based on the results of the floor to ceiling expectations exercise. This document will be one that is examined and possibly refined on a regular basis. The hope is that as staff goes through the learning process and deepens their understanding the expectations will be refined to eventually include aspirations. **<u>Coherence</u>** Developing a common language at the school through a co-constructed building of the definition of C3 terms at our school. • Expectations for Thinking • Routines that Support Thinking • Foster Personal Interactions that nurture thinking The focus for the collaborative inquiry groups will be on inquiry questions created on the agreed upon definitions in relation to the concept of affirming and refining ideas. **<u>Connection to Scholarly Work:</u>** Darling-Hammond, L. (2008) Powerful learning: What we know about teaching for understanding. San Francisco, CA: Jossey-Bass. - Developing coherence from classroom to classroom (common goals for learning, a shared mission)
PHASE TWO	
Using the COP as a support, as well as large group discussions through a digital platform as the foundation of incorporating aspects of C3 thinking suing inquiry approaches into individual lesson plans.	
Inquiry Question What do I need to know and do in order to refine a current practice to successfully incorporate aspects of C3 thinking using an inquiry approach?	
Critical Challenge Introduce the guiding principles of C3 thinking, the implementation of action research and collaborative inquiry groups. Staff will successfully refine two current practices and collect appropriate data/ evidence to support the use of the refinement. Staff will collectively share success and 'need to revisit' stories with collaborative partners or PLC.	
Educational Goal The goal will vary amongst the collaborative groups at each grade level however; it should be based in one of the guiding principles of thinking classrooms.	
Pedagogical Focus To start the renovation slowly and to support each other in the refinement process of one of the guiding principles of CE Thinking.	

Possible Line of Inquiry

- What areas of practice would be easily refined in our current practice to move towards C3 thinking?
- What data could be collected to support the refinement to practice knowing that the data would need to be a measurable means of assessing the benefits to student learning? Each collaborative group can set their own data with the expectation that the findings will be presented to staff. This will help build collective capacity as we continue to grow in teaching and learning.
- What further refinements might be required to continue the process of renovation?
- What do we aspire to do next?

Build Capacity for Professional Learning

- Modelling thinking strategies in staff meetings and professional development days. This will be the foundation of setting thinking expectations, establishing routines, creating an environment that will be conducive to thinking in a professional learning context.
- Modelling and embedding each of the five guiding principle into staff meeting in order to begin to introduce staff the ideas around the principles
- Utilize dedicated time to build staff capacity around the five guiding principles of C3 thinking and provide opportunity for PLC to identify tools, examples, discussions focused on each of the principles. It will be important to provide a thinking approach to the sharing of information by modelling this in how each principle is presented to nurture thinking.
- The scaffolded approach to introducing the guiding principles will allow for extended professional support and continuous inquiry. The scaffolded approach would also allow staff to see and reflect on how each of the principles aligns with current practice and the overarching school focus on C3 thinking (Gini-Newman & Case, 2015)

Revisit Floor to Ceiling Expectations – Affirmations and Refinements

Guiding Principle Focus #1: Engage Students

- Based on the reading of Chapter 8 in Creating Thinking Classrooms
- Slides created by administration / PLC teams / lead teachers that are then shared with staff on Google classroom or in a shared drive (resource building)
- Links / articles that pertain to the guiding principle with each collaborative group contributing to the resources building / sharing.
- Determine a staff challenge that is centered on engaging students

Connection to scholarly work:

Gini-Newman, G., & Case, R. (2015). Creating thinking classrooms: Leading education change for a 21st century world. Vancouver, BC: The Critical Thinking Consortium

Daniels, E. (2011). Teachers matter: We can influence students' motivation to achieve in school. Middle School Journal, 43(2), 32-37.

Klem, A.M., & Connell, J. P. (2004). Relationships matter: Support to student engagement and achievement. The Journal of School Health, 74(7), 262-273.

Collaborative Inquiry Sharing:

- Small and large group discussion on staff challenge that was centered on Engaging Students
- Reflection on affirming practices and deeper questioning around how might each staff member renovate one of their current practices
- Revisit Floor to Ceiling Expectations – affirmations and refinements based on the newly acquired information

Guiding Principle Focus # 2: Sustain Inquiry

- Based on the reading of Chapter 9 in Creating Thinking Classrooms
- Slides created by administration that is shared with staff on Goggle Classroom
- Links / articles that pertain to the guiding principle
- Determine a Staff Challenge that is centered on Sustaining Inquiry

Connection to scholarly work:

Gini-Newman, G., & Case, R. (2015). Creating thinking classrooms: Leading education change for a 21st century world. Vancouver, BC: The Critical Thinking Consortium

Collaborative Inquiry Sharing:

- Small and large group discussion on staff challenge that was centered on sustaining inquiry.
- Revisit Floor to Ceiling Expectations – affirmations and refinements based on newly acquired information

Guiding Principle Focus # 3: Nurture Self- Regulated Learners

- Based on the reading of Chapter 10 in *Creating Thinking Classrooms*
- Slides created by administration / PLC teams / lead teachers that is shared with staff on Google classroom or in a shared drive (resource building)
- Links / articles that pertain to the guiding principle
- Determine a staff challenge that is centered on engaging students

Connection to scholarly work:

Gini-Newman, G., & Case, R. (2015). Creating thinking classrooms: Leading education change for a 21st century world. Vancouver, BC: The Critical Thinking Consortium

Guiding Principle Focus #4: Create Assessment Rich Learning

- Based on the reading of Chapter 11 in Creating Thinking Classrooms
- Slides created by administration that is shared with staff on Goggle Classroom
- Links / articles that pertain to the Principle creating assessment rich learning
- Staff Challenge that is centered on creating rich assessments

Connection to scholarly work:
Gini-Newman, G., & Case, R. (2015). Creating thinking classrooms: Leading education change for a 21st century world. Vancouver, BC: The Critical Thinking Consortium

Collaborative Inquiry Sharing:

- Small and large group discussion / sharing on staff challenge that was centered on creating assessment rich learning
- Revisit Floor to Ceiling Expectations – affirmations and refinements?

Guiding Principle Focus #5: Enhance Learning Through Digital Technology

- Based on the reading of Chapter 12 in Creating Thinking Classrooms
- Slides created by administration that is shared with staff on Goggle Classroom
- Links / articles that pertain to the Principle
- Staff Challenge that is centered on enhancing learning through digital technology

Connection to scholarly work:
Gini-Newman, G., & Case, R. (2015). Creating thinking classrooms: Leading education change for a 21st century world. Vancouver, BC: The Critical Thinking Consortium

Dror, I. E. (2008). Technology enhanced learning: The good, the bad, and the ugly Pragmatics & Cognition, 16(2), 215-223.

Fullan, M., & Langworthy, M. (2014). A Rich Seam - How New Pedagogies Find Deep Learning. UK: Pearson.

Klein, J. D. (2010). When you can't bring your classroom into the world, bring the world into your classroom. Youth Media Reporter, 486-488.

Organization for Economic Cooperation and Development. (2015). Students, Computers and Learning. Paris: OECD Publishing.

Oppenheimer, T. (2003). The Flickering Mind: Saving education from the promise of technology. New York, NY: Random House Publishing.

Sinclair, G. B. (2009). Is Larry Cuban right about the impact of computer technology on student learning? Nawa: Journal of Language & Communication, 3(1), 46-54.

Extension	Identify what we still need to know, revisit, or learn in order to refine current practices so that we can move towards incorporating C3 thinking into classrooms. These self-identified areas of growth my guide Individual Professional Growth Plans (IPGP) for the upcoming school year. **Connection to scholarly work:** Audra Park, Amanda Bush & Diane Yendol – Hoppey (2016) Understanding Teacher Candidates' Engagement with Inquiry-Based Professional Development: A Continuum of Responses and Needs. The New Educator, 12:3, 221-242,DOI: 1080/1547688X.2015.1027978

Overarching Strategies	Overarching Resources	Evidence
Embedded Time – changing the structure of the timetable to facilitate collaborative inquiry. Time needs to be embedded into on-site professional learning days. This will allow staff to have scheduled time to work together in order to foster participation and collegial interactions. Additional ways in which to provide time might also include constructive interactions focused on professional practice during designated prep-time (non-instructional time), after school socials, as well as the utilization of digital classrooms for professional development. **Instructional Leadership** – As administrative leaders, we play integral and active roles in the professional inquiry. Through active participation, modelling and sustained commitment to the inquiry project, the hope is that we create a renovation mindset that will support and promote professional growth. The intent of leadership at the onset of change is not to solve the problems we already know how to solve, but rather to guide the learning community to identify the challenges that have yet to be successfully addressed (Fullan, 2001). **Collection of Resources** - Establish an Online Collection of Resources- creating a comprehension collection of tangible resources to support professional development. Designating school budget monies to supporting staff in collaborative inquiry time, resource purchases or curriculum support (Gini-Newman & Case, 2015).	Creative Thinking Classroom: Leading educational change for the 21st century world by Gini-Newman and Case, 2015. Web resources https://tc2.ca http://www.criticalthinking.net http://www.criticalthinking.org/pages/junior-high-school-teachers-grades-6-9/808 The Creation of a Site Based Digital Resources sharing space (Google classroom / Goggle hangout) that would include: • Group /Admin created slides/ documents on each guiding principle • Articles • Videos • Framework for reflective dialogue • A "how to guide" on action research that includes templates and exemplars • Critical Thinking Challenges • Shares resources developed and curated by collaborative inquiry groups • G suite forms and surveys	• Pre-reflection of C3 thinking, deep understanding, competency development, and fostering genuine commitment. • Collaborative Groupings (Google Form) • Floor to Ceiling expectations • Post reflection of C3 thinking, deep understanding, competency development, and fostering genuine commitment. • Action research results (school / individual) • Individual Professional Growth Plans • School Continuous Improvement Plan (CIP)

PHASE THREE
Using the COP as a support, as well as large group discussions through a digital platform as the foundation of incorporating aspects of C3 thinking suing inquiry approaches into individual lesson plans.
Inquiry Question What aspects of creating thinking classrooms do I aspire to implement into my subject area or lesson plan and what do I need to learn or do in order for implementation to be successful?
Critical Challenge Successfully implement a new practice and collect appropriate data to support the use of this practice.
Educational Goal The goal will vary amongst the collaborative groups at each grade level however; it should be based on an identified area of refinement and aspirations within the context of the five guiding principles.
Pedagogical Focus To continue to commit to a renovation mindset and to support each other in the aspiration process of one of the guiding principles of C3 thinking.
Possible Line of Inquiry • What areas of practice do we aspire to incorporate in order to move towards C3 Thinking classrooms? • What data could be collected at a district, school or classroom level to support the refinement to practice knowing that the data would need to be a measurable means of assessing the benefits to student learning? • What further refinements might be required to continue to the process of renovation? • What do we aspire to do next? Looking at the data that has been gathered and using it to guide the decision making, extrapolate what it is telling us about our practice and how it can be used to refine what we are doing.